

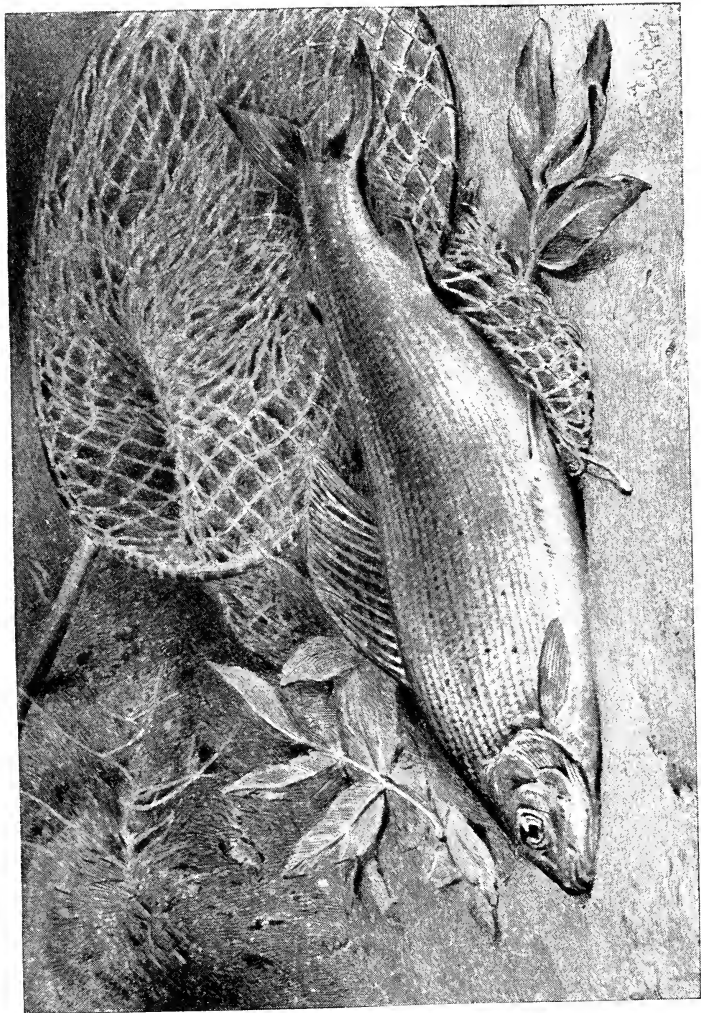


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A. N. Cheney Esq  
With Compts

W H Drummond  
Aug 14<sup>th</sup> 1895



THE GRAYLING. (*Thymallus vulgaris*.)

FROM A DRAWING BY A. W. COOPER, ESQ.

THE  
BRITISH ANGLER'S  
LEXICON.

BY  
RICHARD NIVEN.

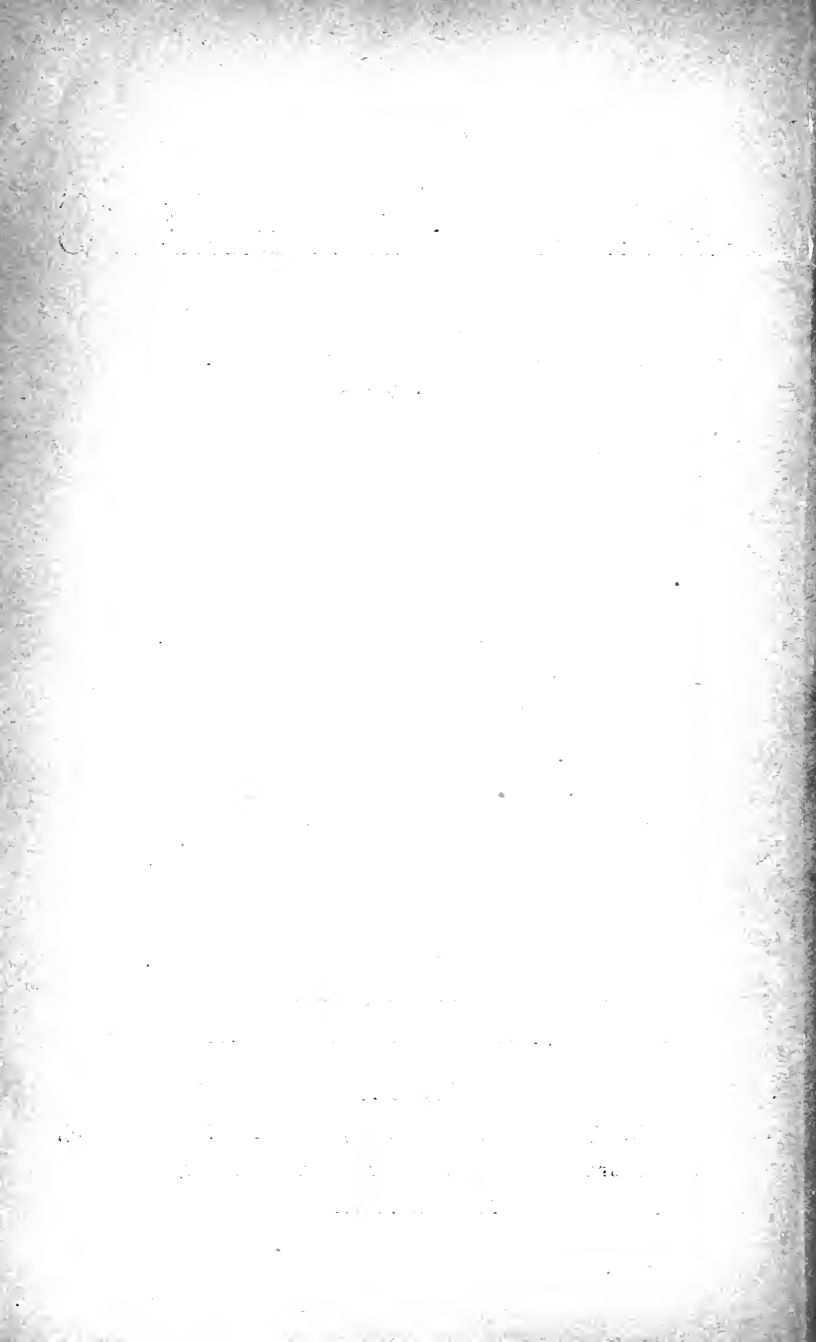
ILLUSTRATED.

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## PREFACE.

A PREFACE to such a work as I now venture to offer to the Angling World is unnecessary, and only that I consider it incumbent upon me to return thanks to my many kind angling friends for the interest shown and the assistance they have given me, I would launch the boat without the christening ceremony.

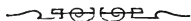
As a lover of the "gentle art" from the time that I first caught a stickleback with the point of a rush and a crooked pin, I have ever felt a great interest in all relating to it, and an all absorbing desire to assist and teach the "young idea." There are many well written books on "angling," treating elaborately on every branch of it, and well worthy of perusal. I have drawn particular attention to several of them in the various articles of the "Lexicon." But this effort of mine I do not class as a book at all, it is merely a condensed reference to all that relates to fish and fishing, so that the tyro, for whose especial benefit it is mainly designed, may easily gain practical information on any subject. It is not intended to supersede in any way the various works already before the Angling World, but, on the contrary, to encourage a perusal of them. I have endeavoured to make the articles as concise as possible, and, I believe, all that has been noted down is reliable.

To Messrs. S. ALLCOCK & Co., of Redditch, the noted wholesale tackle makers, I return my best thanks for the trouble they have taken in furnishing me with descriptions and samples of the various tackle employed ; to Mr. W. J. CUMMINS, North of England Works, Bishop Auckland, for the practical help given in all that relates to fly tying and flies for the English and Scotch rivers ; and last, not least, to my old friend THOMAS GERRARD, Esq., for his kindly assistance in the tying of Irish trout flies, than whom few can fabricate a better lure in fur and feather—aye, and catch a trout with the same. I commend his motto to all my friends : “Never pass a spring.” To one and all of my other friends, who shall be nameless, solely on account of taking up too much of what was, at the start, to be “No Preface,” I return my thanks, and so, in the words borrowed from the great Master of the Gentle Art, “I think “fit to tell thee these following truths, and much less own “this discourse to please myself, and having been too easily “drawn to do all to please others, as I propose not to the “gaining of credit by this undertaking, so I would not “willingly lose any part of that to which I had a just title “before I began it, and do therefore desire and hope if I “deserve not commendations yet I may obtain pardon.”

RICHARD NIVEN.

*Chrome Hill, Lisburn.*

## THE BRITISH ANGLER'S LEXICON.



**Air Bladder** or **Swimming Bladder** is intended to aid fish in ascending deep water, and for the accommodation of their specific gravity. It diminishes or increases according to the pressure exercised upon it by the ribs. It is of various sizes and forms, and is situated under the spine, in the abdomen. The air contained in it consists of nitrogen, and is formed by secretion. In some fish, such as soles and other flat fish, and eels, it is entirely wanting, as they exist chiefly at the bottom of the water. Isinglass of the finest kind is made from the air bladder.

**Alevin** is the name given to the newly hatched-out trout during the period of it having the yolk sac attached to it, and which amounts to about two-thirds of the length of time of incubation; if the water is cold and falling in temperature this period is lengthened.

**Alexandra Fly.**—This is really no imitation of any living insect. The body is composed of silver tinsel, and the wings of the bright strands of the greenest peacock herl; sometimes red ibis strands are inserted, and often jungle cock feathers. They are made all sizes, and are principally used in the South of England rivers, fished well sunk in



the water and worked more like a minnow; they kill well on many lochs, and for Norway fishing they are

invaluable, if made on No. 4 and 5 hooks, Kendal scale—the trout there on some rivers are very partial to this green-winged fly; they are also made with a spinning attachment.

**Aluminium Reels.**—These reels are entirely made of aluminium, in trout, sea trout, and salmon sizes. They are exceedingly light and strong, but rather expensive, and therefore not extensively in demand. The weight of a salmon reel, 4 inches in diameter, is only 9 ounces, and a trout reel  $2\frac{1}{2}$  inches weighs 3 ounces. They are very serviceable, and will last a lifetime.

**Angling** is the art of catching fish with rod, line, and hook—to the latter is attached a lure of some sort—and is a sport so ancient, that its origin has been lost in the mists of antiquity. It has afforded amusement of the highest degree to multitudes of great and learned men in all ages, and continues still to do so. It has been looked upon by many as a stupid and a selfish pastime. It certainly cannot with truth be called stupid, as the pursuit of it necessitates the exercise of all the skill a man possesses. It is not selfish, as no body of men take greater delight in each other's society than anglers; and although for the necessity of success, it is better to be alone in the actual pursuit of it, yet that does not hinder "sweet conferences" now and then with each other on meeting on the banks of a river, exchanging ideas upon the sport, flies, &c. Angling has a tendency to produce in the mind of him who pursues the art a real love of nature, as there is spread out before him all the wondrous treasures of her storehouse. He must be a man "devoid of soul" who cannot enjoy and learn. The beauty of the scenery through which he wends his way,



amidst the balmy breaths of spring or the genial warmth of summer, combines to create in his breast a real interest in the varied forms of the animal and vegetable life that he sees around him, and to elevate his mind by dwelling on the bounties that the Giver of all Good has thus lavishly placed at his disposal. It is a healthy pursuit, too, bringing into active exercise all the muscles of the body, and clearing the mind that has become fogged by the cares of business. It becomes a passion all-enthraling, and when once it takes hold of a man, he prefers it to all other amusements. Other sports may be more exciting, but there are none requiring more intelligence, vigilance, and skill. His quarry is ever on the alert, and, with all man's superior knowledge, he often fails to convince the fish that he is not a fraud. An angler—a good one—is so by instinct, the love of and the proficiency in it grows from his youth, and, unknown to himself, he develops into an expert in the art. No education will make a good angler if his inclination be against it. The appliances used in angling look very puny for the work that has to be done—a line like gossamer, a fragile rod, and a liliputian hook, with a barb so small that it is almost invisible to the naked eye—with these he essays to capture the monsters of the deep, which, if they only knew how little they had to contend against, would soon settle the matter with a judicious flop of their tail, and leave the angler “on the shore lamenting.” A light hand, a quick eye, a good temper, and the patience of Job, are all essential requisites to make a successful angler. 'Tis said that a man who is fond of chess always turns out a professor of the gentle art; this is because he owns all the above qualifications, with the addition of thought and intelligence. Various are the lures adopted in angling—first, the natural

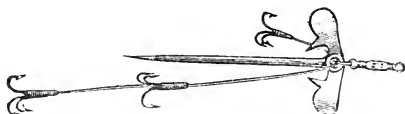
living insect and the artificial imitation of the same ; then with worms of sorts ; maggots, gentles, and paste ; live and dead minnows ; artificial representations of these, and spoons. Angling is divided into three branches—the surface angling, in which the natural and artificial fly come into play ; that of the mid-water, where the various spinning and trolling baits are used ; and, lastly, the bottom fishing, with worms or bait. All of these modes are adopted as occasion or the state of the river requires, and it is well when going on a fishing excursion to be provided with the necessary adjuncts to carry out any or all of these methods.

**Approach to the Water.**—This term applies to the manner in which the angler gets safely and successfully to the scene of his labours. Should the stream or river be a deep, heavy, dark-coloured one, it is not of so much importance how the angler “approaches” and works it. Still it is a safe and good practice to keep as well out of sight of the fish as possible. Should the water be low and clear, greater precaution must be observed if the angler desires to be successful in his sport. Before reaching the edge of water that is to be fished, the angler should cast his eye around him, and note particularly all the bearings of the spot, see if a friendly tree will offer a sure hiding place, or if a bunch of rushes, or tall grass or weeds, will serve as a cover, and decide how best to get close to the water, without showing his person to the quick-sighted fish. When you are going to fish a pool, get to the lower end of it at first ; if this be too deep to wade, crouch below the bank if there be a footing. If the banks are high and afford no cover, the only chance is to lie down on the top of the bank, showing but the arm and head, and as little of these as possible, and thus a few of the finny tribe may be captured.

If you are provided with waders, and the river is not too deep, get into the water at once, wading as quietly as possible so as not to disturb the stretch, as the closer the angler is to it, the less his figure shows ; he will very often see small trout rise within a yard of him, if he stands perfectly still. If the bank shelves at one side, and there is a deep run at the other, creep down until the feet touch the water, and, if possible, cast with a side switch into the heavy stream ; this is usually a sure place for a trout. If a fish is seen rising either above or below you, don't approach it fair from either side ; leave the stream, right back into the field, well out of sight ; walk parallel, at this distance, with the river to the spot where the fish was, and creep or crawl quietly back to the river side, a few yards behind the spot marked. The fish may rise again, and you will have a very good chance, if no awkward casting be made, of hooking him any way. If bushes hang over the water, and prevent the ordinary way of casting, shorten the line, coil it round the top of rod, and protrude through any available opening in the bushes ; uncoil the line and cast with low side switches, when success may crown your efforts, as a difficult place like this is seldom fished, and may hold a good trout that considers his fortress impregnable. The difficulty, however, is not over when the fish is hooked ; it really only begins then, as there is no proper way of landing him, and many a good fish has been lost at this part of the performance. The best chance is to lie down and force the body through the bushes, keeping rod and arm well out, and allow the fish to exhaust itself completely, when the line should be shortened to its utmost limit, and try to get the landing net under the fish ; here the assistance of a friend comes in handy. As a rule, don't touch the line with the hand, or a

break is almost sure to occur. Approach the water, facing the sun or that part of the sky where the sun should be, lest your shadow or that of the rod may be thrown on the water. Nothing frightens a fish so much as a shadow being thrown across the water above him. Sometimes it is nearly impossible to approach the water without becoming visible to the fish. In this case lie down flat on the bank, so far back that you are not able to see the water, even on the far side; then drop the fly over the near bank on the chance of a fish taking it, which—if there be one—it will do confidently, providing it is the proper fly. You will not see the rise, but only feel the touch, when you may play him. There is the danger in this case of dropping your fly on weeds or grass growing at the edge, when, of course, you must come into view to release it; but it is well to risk all this, especially as you cannot “approach” any other way. Never walk close to a stream you are going to fish; keep a stone's throw from it, unless when angling, or you are walking for pleasure alone. Still, in doing this you often spoil another angler's sport, who may be ensconced in a hidden spot invisible to you. The human figure on a high bank, when backed by a clear sky, must look to the fish a veritable giant, quite formidable enough to scare him to his den among the stones, and keep him there for an hour at least.

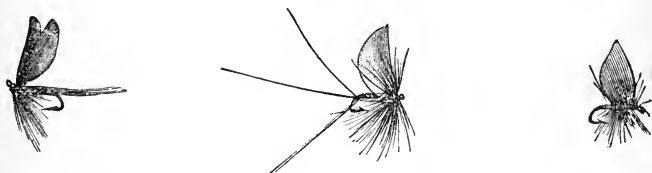
**Archer Spinner** is used for natural bait fishing, and made in three sizes, for trout, salmon, and pike.



To bait this spinner, open out the fins which act on an eyeletted joint to a right angle with the needle. The needle

is then passed through the bait, the fins that are open are then pressed into the gills of the fish, and this completes the baiting.

**Artificial Dry Fly Fishing** is practised by those who fish the clear chalky streams of the Midland and Southern counties of England, and is now coming into fashion very much elsewhere when the water is clear and calm and altogether useless for trying the ordinary wet fly. The flies used are special, and made so as to float upon the surface of the water, and thus present to the rising fish the closest resemblance possible to the natural living fly upon which they are feeding. These dry flies sit lightly on



the water with the wings upright or cocked, and as they are deftly cast over the spot where the rising fish is, in the rings made by the last rise, they are almost certain to be sucked in; they are usually fished singly. After the fly has been on the water, before returning it again, it is dried by a cast or two in the air. All the tackle used in this style of angling is of the very finest—the rod single-handed and well balanced. It requires some practice before the dry fly fisher is capable of dropping the fly perfectly—and this at a long distance too—without a splash, in the exact spot required, and it requires some dexterity to keep it nicely floating towards the angler over the fish, without having any slack line in the water. The horizontal or undercast throw is the best style, where it is practicable, as one of the

essential features of this mode of fishing is to drop the fly on the water with the right side up and the wings cocked. No written description will make a good dry fly fisher; seeing an expert at the work and practising keenly is the only plan. For full particulars of this fascinating mode of angling, the reader is referred to the admirable works by Mr. Halford; they are most interesting, instructive, and well written, and the illustrations are exceedingly good.

**Artificial Flies** are imitations of the natural living fly or insect used by the angler to deceive and capture the wary fish. They are divided into two classes—winged flies and hackle or spider flies. The materials entering into their composition are the hook, the link of gut or hair to



SPIDERS.



WINGED FLIES.

which the hook is fastened, and the materials which surround and cover the hook to form the deceptive imitation. The varieties of these are very numerous, of various sizes, shapes, and colours, and they are now so cleverly made by the professional fly-dresser that it is hardly necessary for a man to tie his own flies, except indeed to give him an increased interest in his sport, as he will have, if he captures a fish with a fly of his own creation in preference to those he has purchased. The artificial fly is a combination of feathers of sorts to form the wings; dubbings of hair, wool, fur, silk, and gold or silver tinsel to compose the body; hackles taken from the neck of

a bird, or feathers from the tail, for legs ; and hair or fibres of feathers for tails. How these are put together is found in a separate article. There are divided opinions as to the relative merits of colour, shape, and size in dressing an artificial fly. Some authorities pay more attention to one of these objects and some to the others. It seems a sensible plan to copy in every particular the natural fly, and it is obvious that if one article is to be produced which is to represent another, the closer the imitation is carried out the better chance of it succeeding in its object whatever that may be, as in this case to capture fish, by offering them an artificial article which they are to mistake for the real one. Now it is difficult to know what colour a fly presents to a fish looking up through the medium of a body of water of varying density and colour ; it may be very different to what the angler thinks it is, and consequently all that can be done is to study carefully both by reflected and transmitted light the colours of a living fly, and mix with care the various coloured materials that will go to make the same colour in the artificial, or as near it as possible. There is no question whatever that some practical anglers who have studied carefully the flies they see, are often able to suggest either an addition or the withdrawal of a colour from the body or the wing of an artificial fly, which will cause it to deceive better than it originally did. Instances have been given over and over again of fish taking a fly so often that it has become a mere shred of wool and feather, and although a new fly, seemingly exact the same, has been put up to replace the worn one, yet the fish refused to take it, and stopped until the worn-out veteran was restored to its place upon the cast. Now this must have been caused by colour alone, as both size and shape were gradually changing.

Some anglers have a great eye for colour, and will choose a shade that will be successful from a shade that looks to an ordinary observer to be identically the same. This remark applies very forcibly to orange and claret colours. Winged flies are perhaps greater favourites than hackle flies. The latter are supposed to represent spiders or those insects which shoot along the surface of the water and do not fly, being destitute of wings. Hackle flies are seldom used in the Irish rivers—more in the North of England and Scotch streams. They don't stand as much hard work as the winged flies, and are generally composed of softer materials. Different localities have special flies suitable, and it is a wise proceeding for the angler when going to a strange place, for the first time, to get acquainted with some local angler, and procure from him patterns or consult him as to the sort of flies that are used in the locality. He will be a gainer by doing so. Some anglers—and men of authority, too—assert that if the angler has three flies on his cast of the distinctive colours of red, green, and yellow, or combinations of these, that he will have all that is necessary for sport on any river all the year round. This assertion is contradicted in a most emphatic manner by well-known angling authors and by nearly every tackle maker or fly tyer, else they would never keep and offer such a tremendous variety as they do; still it is true that there are too many useless patterns to be found in most angler's books. There are about a dozen standard flies, which can be counted upon to give successful sport on any British river at any season of the year. Many of these are dressed differently by various fly tyers, and localities have some influence on this difference. Take for instance the blue dun fly. One man will only use this fly when dressed with a silk body of the olive-greyish colour required;

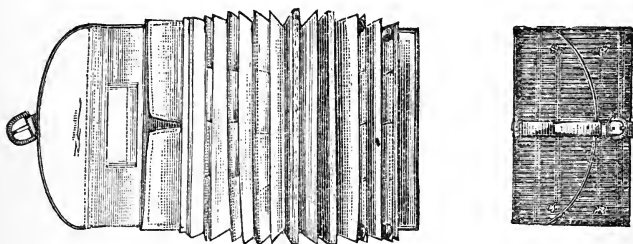


another must have it dressed with the fur taken from the flank of the water rat. Now they both may be right—in English rivers the silk body obtains ; in the Irish rivers the water rat fur has the preference. Instances of this kind might be given about all the flies ; it is a distinction without a difference. The flies that are now being tied for the modern dry fly fishing come nearer the living insect in appearance than what has hitherto been used for the wet fly fishing, and are perfect works of art. Recently a new style of artificial trout fly has been introduced. It is patented, and is called the “Inimitable Fly.” The natural fly is copied to the life, even to the veining of the tiny transparent wings. Its manufacture is an unquestionable stride in the right direction, and, to judge from its appearance, it will be a most successful lure, and, taking into consideration the skill displayed in its creation, the price is very reasonable. Artificial flies (at any rate those used for dry fly fishing) should be kept in a box in preference to a book, as the latter presses the feather and fur into awkward shapes, destroying the light, airy appearance which all flies should possess. The flies used in salmon fishing are different from trout flies in this, that they do not resemble any natural insect that exists. They are composed of gorgeous coloured feathers, wool, and silk, with tinsel lavishly disposed about them ; are tied on larger hooks, of course, as they have much heavier work to contend with. They have a loop of twisted gut tied in the head of the fly, which serves in place of an eyed hook or the link of gut that is fastened to the trout fly. The size of salmon artificial flies depends very much on the weight of water. In heavy rolling rivers, sometimes the fly is a veritable monster in size. This is the case in many of the large rivers in

Scotland, Norway, and Canada, which run heavy and with great swiftness. In tidal streams in this country, the usual size is about four or five times larger than that of the brown trout size when the water is in its normal condition. In the early spring, when the rivers are pretty full, the fly is used larger, and again when autumn rains swell the water. In summer the flies are reduced in size, principally owing to the clearness of the water. There are a dozen or more of the standard flies, which are all that are required to be carried in the salmon angler's book—a list of these is given under "Salmon Flies." There is another class of flies which comes in between the salmon and the ordinary trout fly; these are the sea trout and lake trout flies. They are generally tied on hooks about three times larger than the brown trout flies. The sea trout patterns are composed of bright coloured materials, while the lake trout flies are made up of more sombre colours. Sea trout are so ravenous on ascending a fresh water stream from the sea that they are not fastidious in their choice, and are so bold and determined in their dart at the lure that they have barely time to notice what colour the fly is made of; still, occasionally it is necessary to cater somewhat for their taste, and many a change of fly occurs before they can be persuaded to shift the scene of their labours, especially if they have been a few days in the river after their sea voyage, or the water is low and clear.

**Artificial Fly Books** are the handy receptacles generally carried by the angler, which contain the stock of flies suitable for his sport. They are usually got up in the same style, with leaves of parchment divided by white felt, specially prepared for the purpose. The parchment leaves are made up into small pockets, each side stitched,

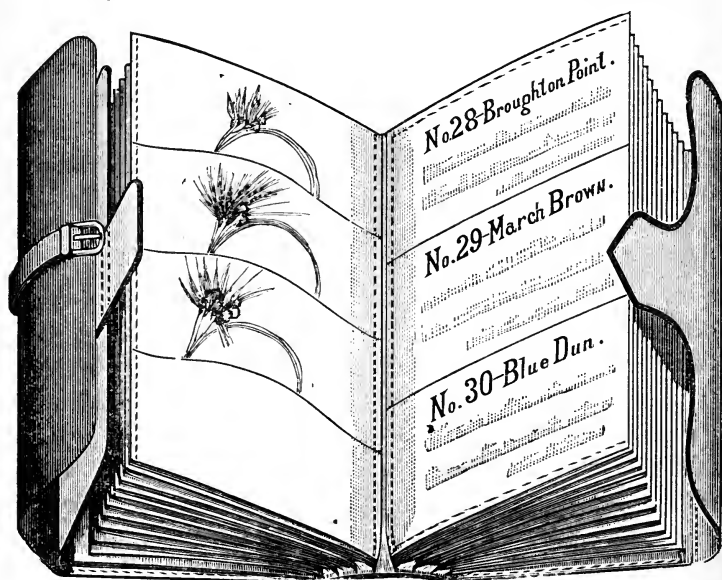
and in these pockets the coil of gut to which the flies are attached is inserted, leaving the flies exposed to view so that the angler may readily choose what he requires. It is usual also in these fly books to have leather receptacles for scissors, needles, disgorgers, a file or tweezers, and baiting needles. It is a mistake to have the



TROUT FLY AND TACKLE BOOK.

book too small; it should measure at least six inches by four inches, so that the flies may lie neatly, and not stray out—at least that the gut should not stray outside the leaves, as it is very apt to do from getting hard in the process of time. The binding of the book should be of good strong leather that will not suffer from a little rain or from lying in the damp grass, although it is advisable to keep it as dry as possible to preserve the hooks from rusting. The corners of each parchment leaf should have a shaving of cork or thick leather glued on, so as to prevent the leaves pressing together and spoiling the appearance of the flies. This is a great objection to fly books in general, and many good anglers have given up the use of them and taken to carrying their flies in boxes. It would be a decided improvement if a book could be brought before the angling public more in the character of a box; this can be managed by having the edges flapped with a stiff binding, so that when the

book is closed the edge of this flap rests against the opposite edge of the back, and takes the pressure entirely off the contents. Nothing spoils a fly more than pressing it tightly, doing away with the light, airy appearance of the body, and crushing the wings so that they will not sit right when thrown on the water. In all cases procure at first a good book, one that will last many years, as a cheaply got up one only turns out to be a nuisance. Trout flies should be kept in a book by themselves ; salmon flies also require a separate book. All the flies should be arranged neatly in their colours or names, with the links of gut upon which they are tied looped in coils, so that when wishing to pick out a fly on the banks of a river, when a change is necessary, the angler can put his hand on it at once without



METHODICAL FLY BOOK.

having to turn over page after page, and very likely lose some by having them blown out by the wind. A very good book has lately been brought out called the "Methodical Fly Book." It is made to contain sixty pockets, opposite to each of which is the name, description of fly, and the proper time to use it. The illustration on preceding page will give a good idea of its usefulness. A few minutes' time, after a day's fishing, will sort the book up, and it is quite a comfort to the angler when his flies are nicely arranged. The book should have the name and address of the owner legibly written or printed on the leather front page, as in this case he has a better chance of it being restored should he inadvertently leave it on the river bank or at the place he was changing his fly. It is advisable to carry the book in the basket receptacle, as if carried in the pocket the heat and perspiration of the body not only harden the parchment leaves but rust the hooks. Keep the book, when not in use, somewhere that that foe to feathers, the moth, doth not corrupt. Since going to press, a box fly book has been brought out, and looks practical and handy in every respect.

**Artificial Fly Fishing** is the *summum bonum* of the angler's art. It is the most popular of all the means of catching fish; it is both clean, pleasant, and captivating; it brings into play all the faculties of the angler's brain, as he has a wary, watchful foe to circumvent, and, with all man's superiority, the fish very often has the best of it. Besides the possession of a keen eye, and a steady gentle hand, the angler must own a good deal of judgment, and although he may get many useful hints from books, yet by practice alone can he carve out for himself his future career. It is necessary that he should have a nice even temper, and lots of patience. Armed with his rod duly set up, to which has

been attached his reel line and cast of flies, he "approaches the water" to take his maiden cast, and accompanied by a good natured friend—an adept in the gentle art—he makes his first essay in what most probably will be the leading hobby of his future life. He grasps the handle of the well-balanced rod above the reel, with the thumb resting upwards on the rod, and the line drawn off for two or three yards; he takes the tail fly between the finger and thumb of the left hand, and swings the rod round and back, letting the line go at the same time until it has reached its utmost length behind the back, when the rod should be brought forward in a circular manner, so as to alight the flies on the spot upon which the eye is fixed. Just as the line is about touching the water, check the downward sweep of the rod, and raise it slightly, which serves to pitch the cast of flies straight and lightly on the surface. It takes some careful and observant practice to carry out these instructions properly—some anglers cannot do it in a life-time, others can do it in a day. It soon becomes apparent to the tyro what he has to do, and he must find out for himself the best way to succeed in his object—which is to alight on the water the artificial flies in the most natural manner, so as to deceive the fish into the belief that these flies are natural ones, coming down as usual to furnish him with a dainty morsel. It is essential in the backward cast that the line should go out to its full length before the return stroke is made, else there is the danger of whipping the flies or a fly off the casting line. A notice of this is given by a sound like the crack of a whip; this sound always makes an angler wince, as he judges he is minus a fly when he hears it—the line should make rather a whistling sound. A fly fisher will find it of service to fix his eye a yard

beyond the spot he wishes the tail-fly to drop on ; he also should practice casting with his left hand, and from both left to right, and *vice versa* ; also underhand casting and switching side-ways, which is done by lowering the back of the hand holding the rod, and bringing it up again sharply, the line circling in front of the angler from side to side. This stroke or style of casting is of great use when fishing a stream where branches overhang low on the water. All of these modes come into play some time or other during a day's fly fishing, and the sooner they are learnt the better. Now, having practised throwing the line for a short time until the awkwardness wears off, the fly fisher should seek the haunt of the nimble trout, and having "approached the water," begin casting up the stream on his own side, and allow the flies to be carried down gently with the current, until they get a little below where the angler stands. Then make a fresh cast a little further out, and so on, until the whole breadth of the stream has been fished over—that is provided the water is not wider than the line will cover ; if it is so, he must wade, or leave that portion out of reach for some brother angler who may come up on the opposite side. A movement up or down the stream may now be made ; if it is a good fishing stream, not a yard of it should be missed. The main line should not be permitted to sweep the water, or as little of it as possible. The flies should be kept lively but not pulled ; watch the manner of the natural fly touching the water and try to imitate it. However, this remark applies more to dry fly than to wet fly fishing, as it is only with the latter first going on the water that they can be kept on the surface, but it is not necessary that they should be maintained there ; in fact, it is impossible to keep them floating, and an inch or two under the surface is just

as enticing to the trout. Perhaps on the first cast a trout rises ; if so, do not get excited and give the rod a great upward jerk, as so many do, but calmly and deliberately make a slight upward twisting motion of the wrist, which, if done at the right time, is quite sufficient to send home the sharp barbed hook into the fish's jaw, and you have him on. And now comes the play—if he be a small fish, reel the line up slowly and steadily until you can place the landing net under and lift him out ; but if he is a fish, of three quarters of a pound or even half a pound, you must humour him a bit, and give some little time to exhaust his energy, bearing in mind to be firm, to keep a tight line, and allow the rod to play the fish, which its pliancy will or ought to do. Keep the point of the rod well up. If he is a strong fish, let him have a little line, but recover what he takes out the moment he slackens speed ; increase the upward movement of the rod, which is technically called “giving the butt,” and sail him steadily into the net, which you have already sunk in the water with the left hand. If the fish “splutters” on the surface of the water, he is trying to get rid of the hook by breaking it with his tail—allow the fish to sink for a moment, keeping a tight line at same time. Remember the tackle is light, and although in careful hands it might play and capture a good-sized salmon, in careless hands it will give way with a trout of four ounces ; no jerking, but gentle humouring with eye and hand, *and let the rod do the work*. Watch its motions, and it will give pleasure as well as instruction. Having landed the fish and given him a knock on the head, carefully release the hook ; if it is caught in the tongue or deeply buried in the gullet or the jaw, cut it out with the point of a sharp knife or a pair of scissors—do not force it out with the



finger or the barb may be broken off, and the fly rendered useless. If a fish is seen to be rising steadily, he is on the feed; so note carefully all the surroundings, bring the best judgment into play how the flies can be got nicely over him. If he is below, the angler should go back from the river, and approach him cautiously from behind. It may be necessary to wade up towards him, to cross the stream, or crouch abreast of him, under the shade of an overhanging bank. Mark the place he rose at last, and, having judged the distance, take off as much line as will cover, and cast a little beyond his "haunt"; then allow the fly to float naturally over the spot. Should he make no movement, rest a little, when he may rise again; then try him once more—he may take it, but oftener he will not. If he seems to be a good fish, worth spending time upon, leave the river bank for a little; examine the flies that are hovering over or sailing down the water, catch one, if possible, and endeavour to find a good copy or imitation of it in the fly book, put it on as the tail fly, and creep back to the same place and try your fortune again. This time the right colour may have been presented to him, and he will be enticed to his ruin. As a rule, the single rising fish are good ones, so use every precaution to get him to terms, and be careful not to allow the fish to get a glimpse of you, if possible, until he is in the landing net. Trout have very sharp sight, and, although they are the gamest fish that swim, yet they fly at the first sight of an encroachment on their demesne. In playing a fish, always endeavour to prevent him from ascending the water, so as not to disturb that part of it over which you have not fished. Aim at keeping on the shallow side of a stream, as the best fish lie in the deep. There is a great diversity of opinion amongst anglers as to the comparative merits of up

or down stream fishing. In Scotland, up stream fishing prevails most ; in Ireland, down stream fishing is practised. There should not be a hard and fast rule in the matter. Sometimes it is best and necessary to fish down, and again it is right to fish up. If the wind is blowing directly down stream, it is almost impossible to get the line out straight by fishing or casting against it, at least the tyro will find it so ; the flies are blown back in regular wisps, occasioning loss of time and temper. (A word in season here—never lose temper or no fish will come to the creel. Try to look at all mishaps—and many a one occurs in a day's fly fishing—in a philosophic light, and you will be the gainer.) If the river is slightly coloured and enlarged by recent rains, down stream fishing can be successfully practised, that is, if the wind be favourable for downward casting ; but all this must be decided by weather, wind, and condition of water. Again, if the stream is strong and you are casting against it, the flies are carried down very rapidly, causing the line to "belly," and if a fish rose now ten chances to one you could not strike him on account of so much slackness of the reel line. Against these drawbacks there is the advantage of working with a shorter line, and the more certain chance of hooking a fish by pulling the hook into his mouth, instead of pulling it from him, as it is a well known fact that all trout lie in the water with their heads up stream, keeping a look out for the food that comes down the current, and as the angler must approach the fish from behind, it is natural that he should throw or cast his flies up ; and there is less ground to go over by walking up and fishing up, than in walking up and fishing down. In fishing down the line keeps taut, and a long line can be used with comparative ease. Across and up is a safe style of

casting a fly, and as this is a partial mixture of both modes, it is very successful, provided the angler is able to keep well out of sight of the fish. On a bright day, with clouds moving about, keep a good look out for one to cross the sun, and then is a good time to throw a fly—it is worth waiting upon. It is not necessary that more than three casts should be made at one spot, unless, indeed, there is a certainty that a good fish is lurking about, when more attention should be paid to him, resting a little between the casts. Keep moving a yard or two up stream, but do not hurry over the water. Many an angler thinks that because another is moving ahead of him he is going to be left behind with an empty creel, and hurries up to get past him. Ten chances to one he is leaving better sport than he will get in front. Never mind what your neighbour is doing—in fact, it is better not to know until the day is over. If he has got a fish soon after he starts and you none, and you are aware of this, it will put you out badly and spoil your enjoyment. There is no sport in which there is more healthy emulation than that of fishing, and to top the score at the end of a day makes an angler as proud—although he will pretend he is not—as if he had been left a small fortune. Never fish with a longer line than can be delivered straight out on the water. Some anglers err in using a long line, thinking thereby that they are covering more water, whereas they are not, but leaving a lot of the line in rings, which not only frightens the fish, but prevents striking successfully when they see the rise; a long line, too, is apt to get caught on bushes, grass, or weeds, when making the backward stroke. Fish carefully all quiet water between streams, and if there is a trout about, he will be where the stream merges into the deep. Trout feed all over, and by noting particularly the

spots where the first one or two fish have been caught you are nearly safe to assume that those are the favourite positions all over the stream for that particular day, or the greater portion of it. The best works to study on ordinary fly fishing for trout are "The Practical Angler," by W. C. Stewart, and "Angling," by Francis Francis. Both are excellent, and should certainly be in the library of every fly fisher.

**Artificial Fly Making** is difficult to explain by writing; it requires to have a lesson or two from a professional to show the manipulation necessary to make a proper fly, and it takes a good deal of practice, after all the lessons have been learnt, before a tyro can fabricate one which will entice a wary trout to take it. Still, if an angler loves his sport, anything relating to it has such especial interest for him, that it is wonderful how soon a seemingly difficult task is overcome. The fly dresser must have a good deal of patience, and a thorough desire of overcoming difficulties. The first fly or two that a man ties he bungles over, sometimes for an hour or two, and is almost frightened at what he has produced, but very soon his eye, his fingers, and his imagination work so thoroughly in unison that in a short time he may be able to tie a fly in a few minutes. This much is certain—the quicker the fly can be fabricated, entailing less handling of the materials, the more natural the finished imitation will appear. Some must have a host of implements at hand before they can start to their work—a vice (which for trout fly tying is perfectly unnecessary), one or two pairs of scissors, a pair of pliers, a dubbing needle, &c. Many of the best fly dressers that can be produced, whose flies are eagerly sought after, never use any instrument but their fingers and a pair of

scissors. With ordinary fingers a good fly can be constructed. The first operation in tying a trout fly is to "arm" it; that is, fasten the hook to a length of gut or hair, this is done as follows: Take the hook by the bend in the finger and thumb of left hand, coil the gut up into a ring of about one inch in diameter, leaving two inches of the gut standing out at right angles to the ring; moisten this end of the gut in water or the mouth, and flatten about three-eighths of an inch of it by means of the teeth. Have ready a length of silk thread of whatever colour is desired, as fine as possible, consistent with some strength to stand a fair pull. The length of silk thread should be at least twelve inches. Now take a small piece of shoemaker's wax about the size of a pea, hold one end of the silk thread in the teeth, and wax it well. Some keep their wax in a bit of leather, so as not to soil the fingers, but this is not necessary as slightly moistening the finger and thumb will prevent the wax adhering to them, and the heat of the fingers helps the wax to run easier over the silk. Take two or three turns of the end of silk thread round the shank of hook, about a quarter of an inch off the extreme end of shank; now place the flattened piece of gut underneath the shank of hook against the silk, hold it there by the finger and thumb of left hand and begin lapping it evenly and closely with the thread from about one eighth off the point of shank, until it comes opposite the point of barb, when the thread is fastened by the half hitch (*q. v.*). Now lay this hook and gut down and prepare the materials for the body, wings, and legs, as this is a winged fly that we are describing. Take a pinion feather of the bird from which you wish to form the wings, it may be that of a starling, a grouse, a woodcock, &c., but the easiest wing to begin with is the

starling, as it keeps its web so well ; separate with the point of a knife or a pin about half an inch of the long fibres on one piece. Take this web of fibres in the right finger and thumb and straighten the points of it by a little manipulation, until all the fibres stand up as nearly level on the points as can be. Hold firmly in this shape and tear them off the quill ; lay this wing down and prepare another web same way, the dark side of the feather lowermost. This is the inside of the pinion not exposed when on the bird. These are to form the two wings. Now for the body : This may be made either of floss silk, of a desired colour, or of wool, mohair, or fur. If it is silk, a piece sufficient to cover the body of fly is cut off and laid down ; if it is a mixture of hair or wool, this is sorted together, mixed according to known proportions, to get desired colour. It may be a third of hare's ear, a third of olive mohair, a few hairs of claret, fiery red, or brown. These are teased up, and a sufficient quantity is made up in the hollow of the hand into a little roll, pear shaped, about one inch long, or less if the hook is small ; lay this down also. Now cut off a piece of gold or silver tinsel, flat, about one-and-a-half inches, then take two fibres, either of wild duck feathers or two rat's or rabbit's whiskers or any of the fibres used to make the tails ; lay these down and then prepare the hackle for legs. This is generally the small spear-shaped feather taken from the back of the head of a barn door fowl, a game cock, or it may be the tail feather of a wren or a partridge back feather. The hackle feather is taken by the extreme point with the right finger and thumb, and the fibres are stroked the wrong way by the left finger and thumb, so as to make them stare, and to stand out when coiled round the fly. Now all being ready—and enough materials

can be prepared at once to make several flies of same pattern—the armed hook is taken up in the left hand, and the tinsel is caught with a couple of whips of the silk, and is then coiled twice round the shank of hook, just clear of the arming, and fastened with a turn or half hitch and the surplus cut away. The two fibres for the tails are caught in just over the tinsel, allowing them to extend about three-quarters of an inch beyond and inclining upwards. A whip of the silk fastens them, and the butts may be trimmed off with the point of scissors. The tying silk should now get a fresh waxing, and the dubbing spun upon it by twirling it in the fingers and winding it round at same time, beginning with a slight quantity of the dubbing and getting it heavier as it goes up to the shoulder. This all can be managed by forefinger and thumb of right hand, pushing the dubbing up or drawing it thinner as the taper of the body of fly requires. When the dubbing is about three-quarters wound, tie in the point of the hackle feather on the top of hook and give one or two turns of the dubbing over it; then two or three turns of the bare silk from which you have stripped off the dubbing—this confines the hackle which you now wind with two or three turns either to you or from you as you find the most suitable to make the fibres of hackle stand out nicely, and with an inclination to point away from the head. The quill portion of the hackle is held either by a pair of pliers or with the finger and thumb of the right hand, the forefinger of left hand being all the time occupied in pressing the turns of the hackle against the body of fly as they are made, so as to prevent them getting slack, or out of their place. When you have made three or four turns of the hackle, grip the quill end with a turn of the waxed silk, which has been

carried out of the way of the hackle by throwing it over the gut to the right hand, so as not to get mixed with it, but easily to be brought back to make the turn and half hitch which fastens the hackle firmly. Now the wings are to be put in their places and a little care and judgment are required to have them sitting naturally—as the wings of a living fly. The wing fibres are taken up by the finger and thumb of left hand, having the tops level, and with finger and thumb of right hand double the sides together so as to take a concave form, into which the hackle and dubbing of fly is pressed. The butt end of the fibres is now whipped down on the bare end of the shank—about one-sixteenth of an inch—with a few turns of the well-waxed silk, and fastened off by two, or at most three half hitches; see that the wings when tied incline at an angle of forty-five degrees to the shank of hook. Some flies have flatter wings, and some are made more upright, according to the sort of fly the imitation is intended to represent. Some dressers separate the wings, by taking the tying silk between equal portions of them, carrying it round the hook underneath and bringing it up again once or twice so as to form a distinct partition. Others put the wings on first of all, by tying the butts in, leaving the fibres away from the bend, and when the body is completed these wings are bent back into proper direction and confined by whipping over the bent fibres. Be sure and have the *silk well waxed*, so as to finish off the tying firm, which is done by a couple of half hitches or slip knots. If the fly has to be ribbed with either tinsel or silk, these are tied in when the arming is done, leaving them depending until the body is finished, when they are wound spirally in coils up to the hackle or shoulder and secured by the tying silk. When making the head, that is.

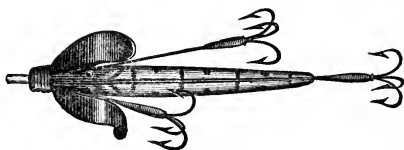


lapping on the wings, be sure and have the shank of hook clear for a sixteenth of an inch ; this can be managed if the dubbing or hackle encroaches upon it by pushing them well back with the thumb nail. After the fly is finished cut off the butts of the wing feather, close to point of shank, also the tying silk, and put a touch of varnish on the head, which will make it firm. In Halford's book on dry fly fishing, a very full description is given of modern fly tying, and the illustrations are numerous and perfect. He recommends a vice, which leaves both hands free to manipulate the fly. But it can be done without. The making of the dry flies is more particular than the wet ones, as they are floating, and must closely imitate the dry living fly. But there is no reason why as much attention should not be paid to wet fly making, and the more perfect the imitation is the better success will attend it. Most artificial flies have too much fur and feather about them ; the finer the shape the better, but the colour is the most essential element, as large and coarsely made flies are often seen in the hands of the rural angler, doing good work, when the most perfect specimens of the fly dresser's art in the hands of a stranger may be barren of results, and that stranger a good angler too, but there will be something wrong with the colour of the fly he is using. Hackle flies are made in a similar manner, but without wings, and the hackle is tied in at the tail and wound right up the whole body—with some flies which have no hackle, the dubbing is pulled out at the head with the dubbing needle, leaving the fibres loose, and these form the legs. Spider flies are made by taking the hook in the left finger and thumb ; lay the gut along the shank, and with a well-waxed silk thread, commence in centre of hook and whip it and gut together

until the end of shank is reached, where the head is formed by several turns of the lapping silk, which should be of the colour the spider is to be made. Now take the feather and lay the butt end of quill on the shank towards the bend of hook, lay the well waxed thread along the quill on the inside of feather and spin or twirl both round, and in this state begin winding on the feather, carrying it down to where you commenced. Take care to have most of the fibres free to stand out, if they do not, they can be picked out with the dubbing needle—finish off with a few hitch knots. The hackle or feather can also be put on, perhaps more neatly by not twisting the silk with it, but after fastening the root end firmly to the shank of hook, take the other end in the spring nippers and roll it evenly round until it is finished, when it is fastened with the thread which has been laid along the shank to make the finishing hitch. Salmon flies are not more difficult to make than trout flies, although they are more elaborate, but being much larger they are easier tied, and there is more room to work up the materials. There are additions also to these, such as toppings and tags; they are also made in divisions, very often three, and even four different coloured materials forming the body, divided by the herl of ostrich or peacock, sometimes with floss silk, gold or silver tinsel—this style is called a jointed body. The wings are mixed by using bright feathers from different birds. A good deal of license is left in the fly dresser's hands in forming salmon flies, as they really are not representatives of any living insect. However, there are several standard flies which are greatly used owing to their established success as lures, and these of course should be most carefully imitated.

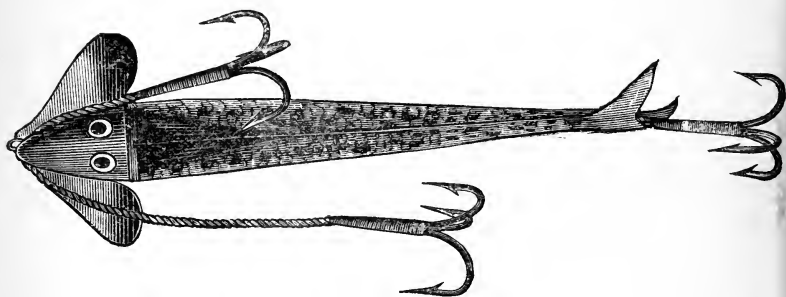
**Artificial Minnows** are deceptive imitations of the living fish, to be used by spinning or trolling in the capture of the larger varieties—salmon, lake trout, trout, and pike. These are made of different materials—glass, horn, metal, bone, wood, silk, indiarubber, quill, and soleskin. An immense number of patterns have come into existence since “Old Isaac Walton’s” time; many of them have disappeared as useless, but there still remain about half-a-dozen which hold their own against all comers. Among these may be mentioned the “Phantoms,” the “Devon,” and the “Quill” Minnows. The great desideratum in artificial minnows is not only good spinning qualities, but a proper *appearance*, approaching that of the real fish. Walton had a very good idea of what was wanted, and out of the materials which the times he lived in afforded, he no doubt made a very successful lure. His description of it is worth noting, written as it is in the quaint and beautiful language of which he was such a master. The minnow “was made by a handsome woman that had a fine hand (and a live minnow lying by her), the body of cloth, the back of it of very sad French green silk and a paler green silk towards the belly, shadowed as perfectly as you can imagine, just as you see a minnow; the belly was wrought also with a needle, and it was a part of it white silk, and another part of it of silver thread; the tail and the fins were made of a quill, which was shaven thin; the eyes were of two little black beads, and the head was so shadowed, and all of it so curiously wrought, and so exactly dissembled, that it would beguile any sharp-sighted trout in a swift stream.” There is a very good artificial minnow made from a quill, the invention of a clever angler, the late Mr. Garnett, of Kendal, but it has been much improved, and for trout fishing in either

clear or discoloured water is invaluable to the angler. This class of minnow is very light, swims well, and the leads are inside the quill and shine through. It requires a little



QUILL MINNOW.

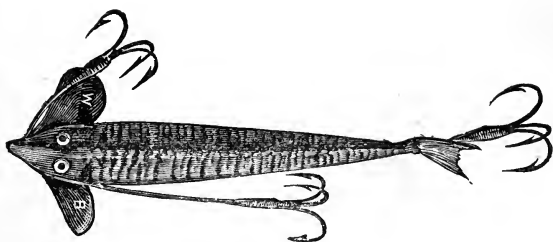
practice to work the artificial minnow nicely in mid-water, so as not to have it too deep nor yet too shallow—about two feet underneath the surface is about the right depth. The soleskin phantoms are most extensively used in India for mahseer fishing, also for pike trolling, and being exceedingly strong and tough, they stand “wear and tear.”



SOLESKIN PHANTOM.

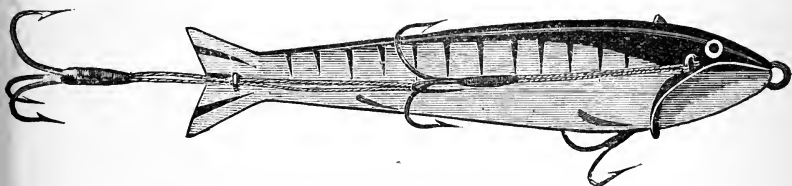
The ordinary silk phantoms are largely used in Scotland and Norway for salmon, lake trout, and trout; these also have been greatly improved by the introduction of a swivel

inside the mouth, but bear in mind there should also be two or three swivels attached to the trace to facilitate the spinning motion; this remark applies to all artificial minnows. The pearl phantom is a great favourite on



ORDINARY SILK PHANTOM.

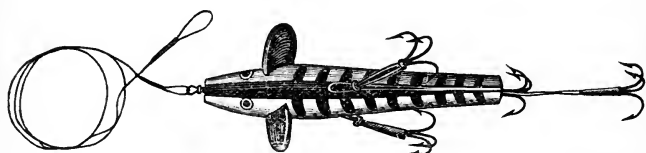
such lochs as Leven, Earn, &c., and also on the lakes of Norway. It is the invention of Mr. Townsend, a gentleman well known as a successful angler on Loch Leven. The pearl is carefully shaped and painted, and made of material that will last a long time. The archimedean spinners at the head cause it to revolve rapidly.



PEARL PHANTOM.

The minnow known as the Devon is well worthy of notice, and ranks as high, if not higher, than any of its rivals. It is made of metal, from one and one-eighth of an inch to three inches, and painted in various colours; the body is hollow,

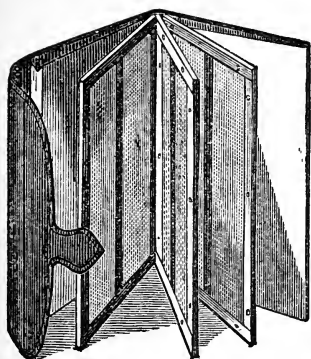
and sits on a set of special hooks. When struck, the minnow generally flies up the trace, while the hooks remain in the mouth of the fish. Minnow fishing, at least for trout, comes into play when waters are clearing after a flood, before they are in a fit state to work the artificial fly. When a fish is hooked on an artificial minnow, it is generally



DEVON MINNOW.

hooked well, and unless some accident takes place, such as fouling in weeds, the fish is almost sure to be landed. The hooks of the minnow should be well tempered, with clean-cut barbs, and not too large.

**Ash.**—At one time a very favourite wood for the butts of rods ; when well seasoned and straight in the grain is still useful in medium class trout and salmon rods, and is also suitable for the butts of stiff rods, especially those used for trolling, pike fishing, or for angling for coarse fish. It is not very elastic, nor “lifey” enough for either trout or salmon rods, and is apt to take a set. It makes a very good handle for a gaff or landing net. The best part of the wood is that nearest the bark, and taken from a small tree not more than eight or nine inches in diameter. Ash also makes a good ring for landing net, if it is chosen straight in the grain, and well seasoned ; it steams nicely, and so it can be bent to any shape required.



### **Backhouse's Fly Book.**

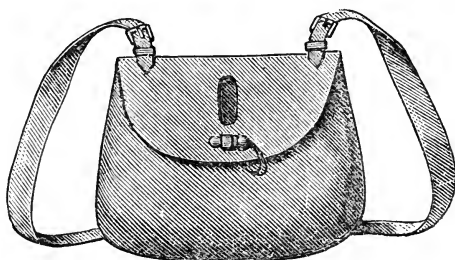
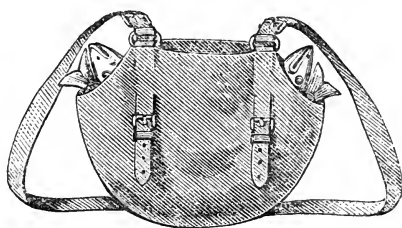
This book is on a novel principle, made of interchangeable framed leaves covered with felt, and was patented by Mr. S. Backhouse, of Leeds. It is most useful for carrying flies and casts, and the angler can arrange his leaves to suit the various streams he fishes.

**Baggits** are the female salmon already about to shed their spawn. They are then "foul fish" and considered unfit for the table, and the taking of them is prohibited by British law. They are also called "shedders." These names, originally local, have now become universal from being introduced into Acts of Parliament. Care should be taken to avoid using fish in a foul state, as it is believed among scientists that the dread disease leprosy has been occasioned by doing so. Proofs of this fact are now being collected by eminent physicians.

**Bags, Fishing,** are made from moleskin, canvas, and indiarubber, are handy for carrying fish, and being pliable are not much in the way when fishing along rough banks of streams, as they do not catch on the briars, thorns, &c. They are made in several shapes, some with expanding sides to allow large fish to be carried with the heads and tails out, but fish are never so fresh and firm as when carried in a basket. All bags should be turned inside out and wiped dry before putting away; exposing them for a night on a tree or hedge keeps them free from smell.



EXPANDING SALMON BAG.



TROUT BAGS.



**Baiting Needle** is a long thin piece of steel wire with a spear shaped point at one end and a spring loop at the other. It is used for threading or drawing the gut or gimp attached to the hooks through the bait, and is made in several sizes to suit minnow, dace, or gudgeon.

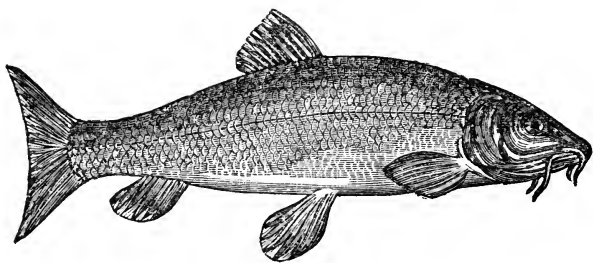
**Bait Kettles** are for carrying live fish to be used as bait. They are made usually of zinc, with perforated lids, a handle, and hasp. Some are round, some square, wider at the bottom than at the top. They are also made double, which allows the water to be poured out and renewed without taking off the lid. If the water is kept cool and agitated, fish will keep lively in them for a considerable time. In carrying fish by these kettles, say for a long railway journey, and fresh water is difficult to be had, if a portion of the water is lifted out by a glass or cup, and allowed to fall, say from a foot high, back into kettle again, it will be thus aerated, and the fish will not suffer—as they otherwise would do—failing a fresh supply.

**Balance of Rod** is found by gripping it by the handle in the usual place, and feeling no top-heaviness, nor a want of compensating weight in the top. The balance should always be judged with the reel and line fixed to the rod. A single-handed fly rod should balance on the back of a knife about two feet above the reel; a double-handed salmon rod about four feet above the reel. A well-balanced rod is a comfort to work with; it may be heavy, and yet tire the angler less than one many ounces lighter but badly balanced. Some anglers prefer a top-heavy rod; it is more powerful, but very wearying to cast with.

**Bank Runners** are adopted in pike fishing, thus dispensing with the use of the rod. The bait employed may be a small fish or frog, attached by a hook in various

ways to a long, strong, well-twisted hemp line wound on a reel fastened to the top of a stout pointed peg or stake, which is driven firmly into the bank. The line is suspended over the water by a forked stick; a float is used, and the bait swims about. Careful watch must be kept on the apparatus, so as to prevent all the line being drawn off the reel and a break occurring. The tackle may be either single or double hooks or snap hooks. These should be attached to the reel line by gimp traces with a couple of swivels, as the sharp teeth of a pike are apt to sever the plain cord.

**Barbel, The** (*Cyprinus barbus*).—A fish of the carp order, and found in many of the large rivers of Britain. It is a gregarious fish, and frequents streams with muddy bottoms, which it ploughs up with its barbed snout, and feeds on the insects and worms that it meets with. The head of the barbel is smooth, the nostrils close to the eyes: it is leather mouthed, from each corner of which depends a



THE BARBEL.

soft barbule (whence the name), two near the point of the snout, and one depending from each angle of the mouth. The shape is long and handsome; the dorsal fin is strong and spiny; the scales are golden, edged with black; the tail forked and of a purplish colour. It attains a very

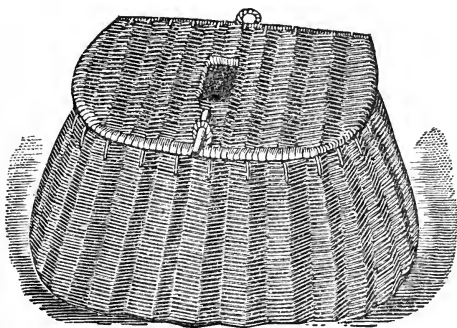
considerable weight. Some have been caught in the Thames and Trent weighing over eighteen pounds and fully a yard long. Barbel spawn in May and June.

**Barbel Fishing.**—As these fish are gross feeding, they are only angled for with bait of some sort, and the modes of doing so are varied. They can be fished for with the ledger line; with a float, in the Nottingham mode; also with the clay ball, and with paste made of cheese, as in roach fishing. This latter is the most sportsmanlike, and with the fine tackle used, a good deal of sport is obtained, as playing and killing a fish of say seven or eight pounds weight, with light roach tackle, requires some skill and patience on the part of the angler. Generally, the places where the barbel is to be found, contain some deep quiet holes, and although this fish is sufficiently powerful to swim against a heavy stream, yet it prefers to ensconce itself in a quiet spot, and watch for its prey from there. In consequence of the stationary habit of the fish, it is almost a necessity to ground bait the “swim,” and this is generally done some hours before the angler proceeds to fish; the ground bait may be maggots or red worms cut up into little pieces. These are either thrown in above the swim, and allowed to be carried down to it by the current, or they are enclosed in balls of soft clay, which gradually washes away in the water, and permits the worms enclosed therein to float out in the spot where the fish are supposed to be. This is done to entice the fish to leave their quiet quarters and to forage about in search of the bait, and once they get accustomed to meet with food so easily, it is only a matter of a little arrangement to give them cold steel, encased by a worm. Sometimes the hook is concealed in the clay ball, properly

baited with the tail of a worm or a gentle. Of course the line is hidden in the ball and attached to the main line and rod. When the swim is baited, the angler proceeds to the spot with his rod and tackle. He baits a worm hook, No. 6, and attaches a light quill float, which just allows the bait to touch the bottom. This can be humoured by means of a few large shot put on the line about a foot above the hook. This baited line is allowed to travel slowly along the bottom, throwing it in above the swim, and allowing it to traverse it until the end is reached. This is the floating style. The angler must keep as quiet and as much out of sight as possible. Any unusual disturbance drives the fish back to their lairs, and the sport at once ceases. Ledger line fishing is the same as for other fish. At the first nibble the angler should not strike, but allow the barbel to suck in the bait, which will be denoted by two or three sharp plucks on the rod point, when the strike should be quick and firm, the line held taut for a moment, and then allowed to run if the fish is big and giving play. The hold is generally good, as the mouth is very tough, and the hook in the ledger tackle is of pretty fair size, say No. 6, 7, or 8. It requires a little practice at the work to know when the fish is actually taking a good hold, as barbel are very apt to keep nibbling at the tail of the bait and withdrawing, something like a kitten at a mouse. Barbel occasionally take the spinning bait when the angler is fishing for trout in the streams, but it is an exception, as they mostly feed at the bottom of the water. When fishing with light tackle, the barbel must be allowed to play for some time, and if possible keep the fish away from its usual haunt, which may be where some sunken roots or posts are, for if it gets in amongst these

there is every chance of a clean smash. It is apt to try and throw itself over the line, and if the latter comes in contact with the sharp fin, the partnership is dissolved. When fishing from the bank with a leaded line let it drop in very quietly; there is no necessity for throwing it far into the stream, as the fish usually feed close to the bank. For an elaborate account of barbel fishing, the angler cannot do better than consult "Francis Francis," who was a very successful angler for this fish, and understood all the methods practised by the Thames fishermen, who no doubt are the most proficient barbel fishers in the kingdom.

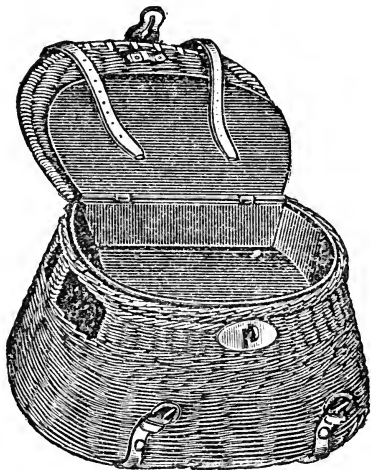
**Baskets**, called by some "creels" and others "panniers," are the usual receptacles carried by the angler to contain what fish he may catch during his excursions. These are mostly made from French willows or split cane, and are shaped so that they may fit nicely against the side of the



FRENCH SPLIT WILLOW BASKET.

body, as they are slung from the shoulder by a broad girth web strap furnished with buckle and tongue. Some have false bottoms of zinc, or false interiors, which can be removed for cleaning; others have receptacles for holding

the fly book, sandwich case, &c., and have holes either in the top lid or side to drop the fish through. All baskets after use should be washed out or wiped dry, and hung in the air to prevent them from getting tainted with a fishy smell. The lid should be provided with a padlock to keep the contents safe. It is useful to have a strap attached to the basket to go round the waist. This helps to ease the shoulder when the basket gets weighty, and supports the back of the angler as well. A basket should be chosen of a size that will suit the general run of the fish the angler will mostly be in pursuit of. A large basket with a few small fish in the bottom of it looks out of place; as a rule, the medium-sized baskets are best, and are more easily carried. If an extra big fish is caught, the angler will



NEW BASKET, WITH LIFTING TRAY.

make some shift to have it conveyed home in safety. One of the latest baskets introduced and patented contains a tray on the top about three inches deep, to hold the fly

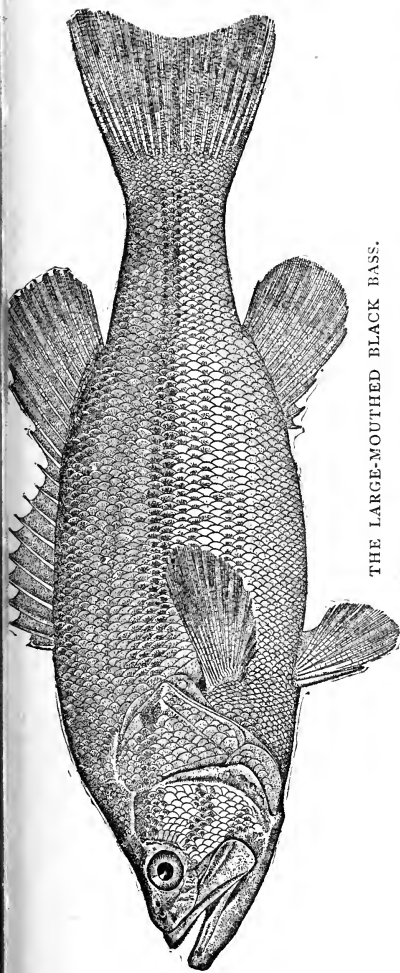
book, lunch, flask, &c. The hole to insert the fish is at the side; it has brass hinges, a hasp for padlock, and is furnished with straps to carry waterproof coat and stockings. The newest strap for slinging the basket is called the "Facile," and is very comfortable. It can be easily attached or detached, and prevents the basket from sliding under the arm when stooping or getting over a fence. It is slung on the left shoulder, the basket being kept in position by a waist strap. Both waist and shoulder straps are adjustable to any figure. It also gives greater freedom to the right arm, and can be taken off instantly by unfastening the waist strap in front.

**Beetles** are used occasionally as bait for trout. The two best sorts for this purpose are the red or copper coloured variety, and the black one. They have two pairs of wings each. The upper hard wings are clipped off before putting on the beetle; the hook should be inserted in the thorax and brought out until the point is visible between the shoulders; the feet of the beetle must hang down when dropped on the water. The copper coloured beetle is the more enticing of the two, and may be found under the old droppings of the horse or cow. The best place to angle with these is under overhanging banks, just as if they had dropped off on to the water.

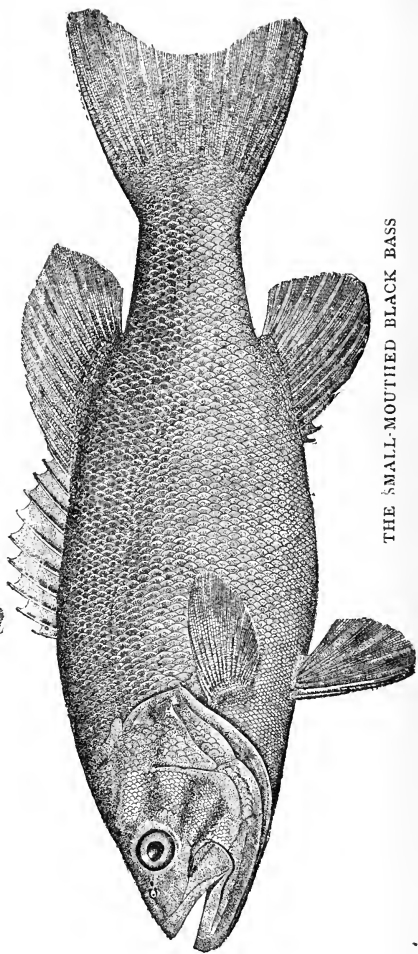
**Black Bass, The.**—Under this heading is included but two varieties of the species, which are those that will be of interest to the British angler, and as there is evidently a determination to introduce this sporting fish into our waters, a notice of it may not be out of place. Both varieties resemble each other in colour—a black back, golden olive sides, alternating to a light amber, and white belly, with a spinous dorsal fin, not so deep but longer than

in the perch; the shape of the fish something like the bream, or between bream and perch, and tail slightly forked. The large-mouthed black bass (*micropterus salmoides*) differs principally from the other small-mouthed variety in having the snout more elongated, not so shapely, gill covers extending further back, under jaw rather protruding, the mouth considerably larger, and a heavier fish altogether. It is a well-known and widely-distributed fish over the lakes and rivers of North America and Canada, and has received a varied assortment of names, amongst them being the following:—Green bass, moss bass, Oswego bass, Huron bass, river bass, &c. It prefers sluggish waters, and is frequently found in the brackish water of river mouths. It does not succeed so well in mountain ponds or streams. It attains a weight of over twenty pounds, but averages about five pounds; is very active, delights in pure water, and avoids pollution, even to the extent of migration, should this become necessary. It spawns up as late as July, although in some States the fishing opens as early as May 1st. The young fry of this variety seek animal food at a very early period of their existence. They have the reputation of being more destructive to one another and to the young of their own species than the small-mouthed bass. They feed on minnows of all kinds, cray fish, frogs, insects, and their larvæ; in fact, nothing comes amiss to them. Their habit is to feed both at the surface and the bottom, and they pursue their prey with wonderful activity. When surrounded by nets or caught by the hook, they will leap five or six feet out of the water several times. At the approach of cold weather they seek deep water, and hibernate in the mud. They particularly delight in the shelter of stumps, logs, or overhanging banks, and are very fond of concealing them-





THE LARGE-MOUTHED BLACK BASS.



THE SMALL-MOUTHED BLACK BASS

selves under aquatic plants, where they feed on the small fry that these give shelter to. The spawning season of both varieties is about the same—May till end of July. The eggs are adhesive, attach themselves to stones until hatched, and are deposited in shallow water on a gravelly bottom in flat-shaped nests, which are formed by the female fish, at least it is assumed to be so. The males fight for the possession of the female, and the successful suitor helps her to eject the eggs by biting or pressing her abdomen. The male then deposits the milt and departs, leaving the female to guard the eggs from numerous enemies—frogs, birds, and fishes. The period of incubation lasts from seven to fourteen days, and the young bass remain in the nest for about a week. The male returns and assists the female to defend the young fry until they are able to fight for themselves. At the age of ten weeks the young bass measure three-quarters of an inch in length, and at three years of age, in suitable waters, the average weight will be three pounds. The flesh is white, firm, and well flavoured, ranking as one of the best of the fresh water species—resembling in taste that of the whiting. It is asserted that the game habits of this fish are superior to the small-mouthed variety; but this is a vexed question, both being possessed of high sporting qualities. The small-mouthed black bass (*micropterus dolomieu*), called yellow bass, gold bass, brown bass, dark bass, minny bass, little bass, and hog bass, is pretty widely distributed in that portion of America north of the Mississippi, extending into Canada; but it has been introduced lately, and with success, into various sections of the vast continent of the United States. It seldom exceeds the weight of eight pounds, and usually averages two and a half pounds; a fish of this latter weight will measure fifteen inches. The small-mouthed

bass loves clear, rapid-flowing streams and greater elevations than those in which the large-mouthed thrives. It detests pollutions, hibernates in the winter, and comes to the shallows in the spawning season. There is no difference in the close season from the other variety. The food is the same. It is not so cannibalistic in its tendencies, and its smaller size limits its power of overcoming larger fish. Being fond of clear, rapid water, it is very active in its movements, rivalling a white trout in jumping properties. It swims in shoals, and feeds wherever food is to be obtained. The reproduction is similar in every way to that already described under the heading of the large-mouthed variety. It can be bred artificially, and the fry may be transported with perfect safety; this will tend in a great measure to insure its distribution. The game qualities of this variety are very well known and highly appreciated by our sporting cousins across "the pond." As a fighter and tactician it is probably not excelled by any fish of equal size, except the trout. Its resistance when hooked is violent and determined, and with light tackle great skill is essential for its capture. It takes minnows, cray fish, frogs, artificial minnows, spoons, and the artificial fly. A Devon bait is irresistible, one with a green back and silver belly being the best. The tackle requires to be sound. The rod may be one from eight to twelve feet long, light and well balanced, plain reel, silk line. The flies may be those in use in Sutherlandshire—lake trout flies. A favourite one is black wing and silver body. The spinning Alexandra fly has also been used with great success. The following extract is taken from "Forest and Stream":—"I have listened with a great deal of interest to the remarks of Dr. Henshall, whom I deem to be the best authority on the black bass and whom

I have sincerely thanked since reading the book by which he brought into prominence this gamest of the fishes in any water. I was raised in a trout country, but since my experience with the black bass I have yielded to him the palm for being the gamest fish that I have ever encountered. The interest and intense excitement never ceases from the moment he is hooked till he is brought to grass or shakes the hook out of his mouth, which with me frequently happens. Other anglers may boast of never losing a fish, but I think he who never loses one must be entirely devoid of sensibility. There is something more than mechanical manipulations in handling this fish. It is impossible to avoid some anxiety in the operation, which tends to unman a very nervous angler, while the phlegmatic one may be able to carry a steadier hand ; you never know what a black bass is going to do after he is hooked. He sulks, he runs, he tries to extricate the hook by rubbing against any substance near at hand ; he rushes toward you to see what a slack line will do ; failing in this he leaps two or three feet out of the water, opens his mouth, shakes his head and then, if he gains any slack, is the point of danger against which it is difficult to guard, and there is where I have lost many a fish. I tell you, Mr. President, a five or six pounds small-mouth bass, well fed upon crayfish in the cold waters of Lake Superior, is an ugly customer to encounter. After employing all his tactics to disengage the hook from his jaws he seems to yield (only playing possum) and may be quietly led to the boat, and when you think it safe to apply the landing net he gives a spring, frequently landing in the boat, but quite as frequently going clear over it and escaping. I often in trout fishing, on the north shore of Lake Superior, have hooked a black bass, though they are

not abundant there, and when I did I knew I had half an hour's job on my hands, if not more, as they will fight twice as long as the trout, and with twice the tact and vigor. I feel like the boy who flung back into the water a nice trout, saying he was fishing for eels and not for trout. With an eight ounce rod and a small gnat or midge fly, the chances are in favor of the bass. I have noticed an account somewhere, that black bass have been caught in the winter, but I have never seen them caught at that season of the year in this section. 'Where do the black bass go in summer?' asks my friend, Dr. Henshall. They don't go anywhere. They stay about the reefs and the recesses of the broken and rocky coasts of the lake. The old Hen in the Hen and Chicken group, lying north-westerly from Put-in-Bay, is a favorite resort for them in the months of July and August and early September. I have visited these islands, and, finally, all the rocky shores in these clusters of islands at the head of Lake Erie, where in the waters surrounding them, on a calm day, although I could see most enticing bait or lures placed near their noses, not one would open his mouth; they would turn up an eye, wag a ventral fin, as if in scorn of the tempting morsel. Any one who has seen a black bass or a speckled trout and observed the gravity of his countenance when declining to take a fish hook in his mouth, the facial expression of disgust and scorn will unrival that of Meg Merrilies, and he will feel as if he was in the presence of more than animal intelligence." There is some doubt about the desirability of introducing these fish into British waters. Unquestionably it would be unwise to put them in good trout or grayling streams, but there are numberless rivers and lakes, dams and ponds where the trout are *non est*, and which at present yield no

sport of any kind to the angler. Therefore, into these waters this fish might be introduced with great advantage. They are about to be introduced into New Zealand, and the following extract from Mr. R. A. A. Sherrin's "Handbook of the Rivers of New Zealand" speaks for itself:—"The fish that would appear desirable to introduce into New Zealand is the black bass of America, although the cultivators of salmon give it an evil reputation, Professor Goode going as far as to say that the fish with which public fish cultivators should deal, the black bass had no claim whatever, unless he was put into the same stream with the pike, and let them fight it out together. But at the same conference, the chairman (the Marquis of Exeter) put in the plea that the black bass would, in certain waters, be a useful addition—he would rise to a fly; he would take any kind of bait; he would live with the pike; and he was exceedingly good eating. He thought the flesh was decidedly more like fresh whiting than any other fish." A writer in the "Fisheries Literature" says:—"The black bass is a fish esteemed by North American anglers—even above the trout. It is a fish of prey, like the perch, and should, of course, not be placed in trout or grayling streams; indeed, it thrives best in ponds and lakes. In sport and food qualities it is undoubtedly superior to any English coarse fish. The successful importations of it made by the Marquis of Exeter and some other gentlemen, prove conclusively that it will do well in this country (*i.e.*, England); indeed, it is doubtful if there exists a more hardy fish, or one which can be more easily cultivated. This will be made evident by a short description of the wonderful manner in which the black bass provides for the safety of its young—in striking contrast to the habits of nearly all other fish. The black

bass spawns in May and June, according as the season is early or late. The parent fish go in pairs, and select some place where the bed of the water they inhabit rises nearly to the surface, where the sun's rays may reach the eggs. If they can find no convenient shallow, they will head up stones on the bottom and make one. Before the eggs are deposited, the parent fish most carefully clear the space they have selected, by brushing it with their fins, and carrying away from it with their mouths all *debris*, such as twigs, stones, &c. These cleaned spaces are readily distinguished by their contrast to the dark wood-covered ground around them; and many of them may be seen in the lake (White Water) in Burleigh Park, in which the Marquis of Exeter placed hundreds of black bass a few years ago. American observers of the black bass have placed things on these cleared spaces, and have seen them carried away and deposited outside by the black bass. The nest prepared, the female deposits her eggs in it, and the male impregnates them. Then both fish keep jealous guard over them for some ten days, when the young hatch out. Every intruder is fiercely driven away. Nor does their care cease here; for keeping their young together, as a hen does her chickens, they convey them to some shallow place amongst reeds and weeds, where they will be safest from the attacks of other fish. This care is continued for some days, until the fry are strong enough to scatter and look after themselves. A few parent fish will stock a water without aid of any kind. To place a very limited number of fish in a large sheet of water might result in their becoming too much scattered to get together again in the breeding season; therefore it is advisable to place them in very small ponds, or else enclose with wire-netting a portion of a large sheet of water, and

keep them there until they have spawned." Of the black bass, in an economic aspect, a gentleman, writing to the Philadelphia Board, says:—"An approximate estimate of the numbers of these fish that are annually taken will show their value to the State. It is given on reliable authority that each boat on the Susquehanna will make a daily average catch of ten pounds ; and from close observation it has been ascertained that there are not less than ten boats to the mile engaged in fishing. This for a stretch of twenty miles would make the daily catch in that distance two thousand pounds, which at ten cents a pound would amount to two hundred dollars. This is a very low estimate, and taking in all the water of the river—from the mouth to Wilkes-Barre on the North Branch, and the West Branch—there is no doubt that the average catch of these fish will not be less than from five thousand to ten thousand pounds, and of money value to the amount of nearly one hundred thousand dollars annually. Frequently, from ten to twenty boats can be seen in water that will not cover a space of ten acres. In its native waters it attains to a weight of six or eight pounds, and is much esteemed for the table." There are several works written upon bass, published in America. The principal one is "The Book of the Bass," by Dr. Henshall ; it is very readable, well written, and contains a fund of practical information suitable to anglers of all classes. A very full account of the bass tribe is given by "Forest and Stream," in their Bass Supplement, which the Editor of this interesting paper very courteously furnished me with.

**Bleak, The** (*Cyprinus alburnus*).—A small fish found in many of the English streams. It seldom attains a greater length than six inches, and swims in shoals ; is very nimble



in catching flies, but not of much account as sport for the angler. It is usually taken by whipping with a gentle or an artificial black gnat on the surface of the water, or it may be angled for with light floating tackle baited with the tail of a worm, or a small red worm. The bleak makes a good bait for trout or pike, but is more tender than either dace or minnow. It spawns in May.

**Blow Lines** are generally made of fine twisted silk, exceedingly light, and employed in fishing with the May fly or green drake, the wind carrying the fly and line far out on the water. (See article on "Lines.")

**Blue Bottle Fly.**—The natural one is found in the hot summer months about cellars or places where meat is kept. It makes a capital fly for dapping with for trout. Insert a No. 0 or 1 round bend hook in the thorax of the fly, bringing the barbed point out between the wings at the shoulder. This does not immediately kill the fly, which flutters on the surface of the water, and is sure to be taken by the fish, provided the angler conceals himself from view and makes no rash movement with the rod and line. In the autumn evenings, under bushes hanging over the river's bank, letting the fly down on the water close to the edge is a likely method of hooking a good trout, if there happens to be one rising in such a spot. The imitation blue bottle fly is called the "blue blow," and is made by some from dark dusky blue silk bodies, with dark starling's wings and black hackle; by others—body of mole's fur, wings of tom-tit, and black hackle. This fly is used in late summer or autumn months on windy days. Tied on No. 2 hook.

**Books on Angling** are very numerous. All of them are readable, from that of Dame Juliana Berners down to the present. Among the old books, first ranks Walton and

Cotton's, "The Complete Angler." Some of the early editions of this book are scarce, and command a very high price. Comparatively few books on angling were brought out between the date of Walton's, in 1772, and 1820. Daniel's "Rural Sports" was published in 1801. It is a fine book, and the plates of the different varieties of fish are admirable. Ephemera's "Handbook on Angling" was a standard work for some time. Sir Humphrey Davy's "Salmonia" still holds its place as an authority. Useful books have been written by Stoddart, Russell, Colquhoun, Hoffland, Wade, Stewart, Senior, Pennell, and Francis. The latter author was an enthusiastic fisherman and consequently practical. He has given to the angling world several very interesting and well written works. For a beginner in the gentle art of trout fishing, no better book can be perused than Stewart's "Practical Angler." He may rest assured that he is in the right path, following a practical, experienced, clever, and conscientious guide. And then let him study Ronald's "Entomology," which will give him a thorough insight into the natural composition of the various flies he will meet with during his angling career. Halford's book on dry fly fishing, with its beautiful coloured plates, and Pritt's works on Yorkshire flies and "The Book of the Grayling" are great additions to piscatorial libraries. A quaint treatise on fly fishing, illustrated with actual artificial flies, feathers, and silk, was written some time ago by the late Mr. W. H. Aldam, of Winchester, aided by his friend, the late Mr. Edward Porter, of Sheffield, but is now out of print. Theakstone and Jackson on Yorkshire fishing are well worth perusal. The latter's work is scarce, and can only be picked up occasionally.

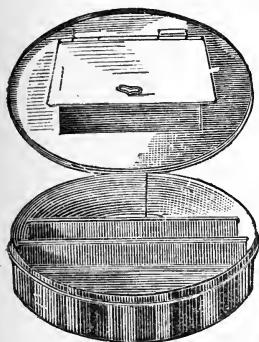
**Boots** used by the angler should be made of good sound pliable leather (easily fitting over woollen socks or stockings), with a low, flat heel and a broad sole—laced. There is no necessity to have the soles paved with nails, until they look like an iron plate, making the boots so weighty that the angler is wearied by carrying them ere half of the day is gone. A few “sparables” or not too broad-headed nails, about half an inch apart, are quite enough to give a good footing on slippery stones. The best leather for anglers’ boots is porpoise hide; it keeps soft always, no matter how wet it has been. It is expensive, but on account of the lasting properties, boots made from it will be found cheaper in the long run. A good shape for boots is that used by the military, called “high lows”; they are easy on the ankle and across the top of the foot. Another good boot, which comes up to the knee and can be used to wade in for a short time, is the “Field” boot. It is made of extremely fine-grained soft leather, is laced up the front over a waterproof tongue, and easy to walk in; a pair of these are very light in weight, considering the length of leg, but they are very expensive. All leather boots after being used should be dressed with some of the various “dubbins” or waterproof mixtures (*q.v.*), and put on “trees” to keep in shape; they should never be dried at the fire.

**Bottom Fishing.**—Nearly all fish that swim may be captured by this mode of angling, as they have a habit of grovelling about the bed or bottom of the water, stirring up the soil on the look-out for grubs, worms, and larvæ of all sorts which may be found there. The angler has merely to choose the well-known baits suitable for the fish he is about to angle for, and present it to them in the natural manner of lying on the bottom of the river or pond, with

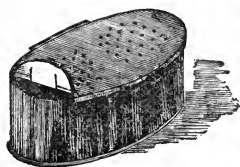
this exception that inside the bait is concealed the barbed hook, and attached to it is the line which is to bring them to the net. The salmon is very fond of a mouthful of ground bait in the shape of a bunch of well-scoured worms, and when they refuse the fly, they may be captured thus in lakes, at the heads of rivers, or in deep silent pools at the foot of falls, when the water is too shallow on these to allow them to ascend. The tackle used is various—the snap hook, the ledger tackle, and the Stewart tackle. The hooks are pretty large, and may be single or double—the latter for the large fish; if for small fish, the arrangements are according to the size. It is rather tame sport at any time waiting of the bite, but it gets exciting when a good fish pouches the bait. As a rule the fish are well hooked. Being allowed time to swallow, the hooks or hook get well into the gullet. In rivers where bottom fishing is much practised, it is usual to “ground bait” the “swims,” or places where the fish are supposed to be congregated, and this plan keeps them convenient to the spot. Barbel are mostly taken by bottom fishing, and also most of the carp tribe and eels. Floats are always used when bottom fishing is practised to denote the presence of the fish at the sunk bait.

**Boxes.**—There are a number of boxes used by different anglers. They are principally made of strong tin, black japanned, and white enamelled inside. The dead bait box, as its name implies, is used for carrying dead bait—minnows, gudgeon, small dace, &c. The spinning box is employed to carry artificial minnows, traces, and leads. The general box is useful in storing minnows, casts, lines, and traces. Paternoster boxes have generally three trays, to carry the paternosters and gut lines. Cast boxes are numerous, as will be seen by the large display of any respectable tackle

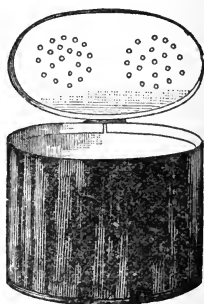
maker. They are generally round, made with either one or two lids. Some are fitted with felt, which is damped and the lines put in to soften the gut before using. In the regular boxes the casts are kept separate by means of cardboard or thick paper. Another good box is the "Royd" cast box. This is of oval shape, having cards that are cut



SPINNING BOX.



MAY FLY BOX.

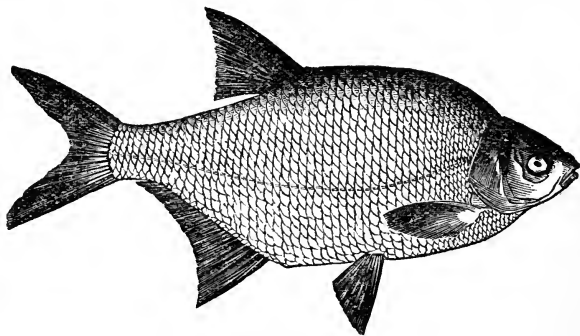


WORM BOX.

away in the middle and flannel that is stretched tightly over them. On the frame of the cards are hooks, on which to wind the casts. Boxes to hold worms are made in several ways, round, oval, and kidney shaped, and when in use are generally strapped round the waist. These boxes facilitate baiting, which is very desirable in up-stream worm fishing. Be sure and have name and address painted on box, for if left at the river side it may probably be restored, otherwise it is very doubtful.

**Bream, The** (*Cyprinus brama*).—There are several varieties of this fish, but the one under notice is the best known to the anglers of Britain as the carp, common, or golden bream. It is to be found in most of the rivers in this country, also in ponds, lakes, and canals, seeking quiet, deep

holes. The bream is a broad fish with a small head, leather mouth, and no teeth; it is covered with net-like scales. The sides of the larger ones are of a golden colour, the belly more of a reddish tinge. The flesh is soft, and, as it



THE BREAM.

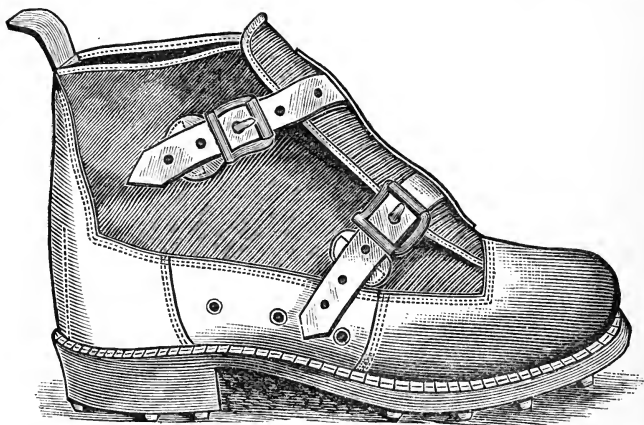
contains a multitude of small bones, is not very desirable for the table. It is gregarious, and swims in shoals. Bream spawn in May or early part of June. They run up to a weight of six and sometimes seven pounds, but the average is about three pounds.

**Bream Fishing.**—This can be done in two or three ways. The most successful plan is to ground bait the spot where these fish are known to be; they will then congregate in numbers. The best lure for them is a clear red worm, threaded on a No. 6 or 7 hook. The line is leaded about two feet from the hook, and then is gently dropped into the water, having a float attached. When the bream takes the bait the float disappears; the angler should then allow the line to pay out, until the fish stops running, when he should strike. The bream is a strong fish, and gives a good run for a moment or two; he then gives up, gets out of his ordinary position, and can be sailed up to the net. Some anglers use

one or two rods, with the bait at different depths, as this fish does not incline to root in the mud, and will seek its prey a little off the bottom. Another plan of fishing for bream is with the ledger line, and, in addition to the ordinary way of rigging up the tackle, there is a hook and short line fastened above the bullet—this gives the double chance. In lakes these fish can be angled for from a punt, with half-a-dozen rods dispersed over the sides. The float in this case should be so arranged on the line as to allow the tail of the worm to about touch the bottom. It is usual to ground bait the spot round the boat occasionally with some boiled barley or wheat, or oatmeal made into paste or porridge. Early in the morning is the best time for fishing for bream. If the weather is showery or gloomy they will bite all day. Lough Erne, in Ireland, abounds with bream, and they can be caught by the hundredweight.

**Brogues** are strong coarse boots worn over fishing stockings or waders. Some are made entirely of leather, others of canvas and leather, and some of indiarubber. In all cases the soles of these brogues should be leather, studded with a few nails, as indiarubber soles are too limber to give the angler perfect command over the action of the feet, especially when wading in heavy water with a rough bottom. A few holes should be bored in the soles or sides to allow the water to escape. If leather brogues are used over fishing stockings they should not be greased or oiled, as, although a heavy pair of wool socks intervenes between them and the waders, the grease is liable to make its way through and injure the rubber; they get very hard, but it is far better to soften them in warm water before using, than to subject them to oil or grease; it is also necessary to have them extra large, to allow them

to be worn with comfort. The best fasteners for brogues are straps and buckles. Indiarubber brogues (sometimes called gaiters), with leather soles and heels, studded with



CANVAS AND LEATHER WADING BROGUE.

nails, are most comfortable, very light, and do not require oiling. At the end of the season, before putting the leather brogues away, they should have a good dressing of dubbing



INDIARUBBER WADING BROGUE.

or currier's grease, which will renew the life of the leather, and be entirely absorbed before using the following season.



**Bronzing.**—When the brass ferrules of a rod get bright and have lost their bronze appearance, they can be recoloured by applying the following mixture:—one ounce oxide of iron (rust) and one ounce arsenic, mixed in half-pint muriatic acid. Cleanse the brass from grease or dirt by washing it in soda and water, very hot. Wipe dry, and hold before a fire until the brass is well warmed; then apply a little of the above mixture with a feather or cloth wrapped round a stick, or a brush. When the desired colour is obtained rub with oil, which stops the process. The ferrules may then be lacquered or varnished.

**Bustard Fishing** is practised on many of the larger rivers, principally in the North of England, wherever night fishing is not prohibited. It is a deadly plan of capturing large, wary trout, who have hitherto declined to be caught in the daytime by the ordinary methods practised. Usually this fishing begins about ten o'clock at night, as very often from that hour till midnight the large fish go on the feed. The rod should be strong, and the casting line composed of fine salmon gut. To this is usually attached one and sometimes two bustard flies. The angler is provided with fishing stockings or trousers, and wades up the centre of the river if not too deep; but it can be practised from the bank if free from trees, as the light is very uncertain, and any obstruction will cause delay and mishap. Cast, if wading, to either side. The rise is not seen, but the tug is felt when little play is allowed, and as the tackle is strong the fish may soon be brought up to the net. The warm, cloudy nights in June and July favour this style of angling; moonlight nights should be avoided. The bustard is an imitation of the large light-coloured moths which flutter ove



ARTIFICIAL  
BUSTARD.

rivers in the vicinity of meadows in the warm evenings of June and July. The natural moth is very successful, but it is troublesome in the dark attaching fresh ones after each fish has been caught. In consequence of this the artificial bustard is much used, although not so killing as the natural fly; yet it is very deadly in the hands of a practised night-fisher. The following are the dressing of the three best patterns:—White bustard: Body, white wool or white chenille made full and round; legs, white hackle; wings, white hen or pigeon. Yellow bustard: Body, pale yellow-coloured wool or yellow chenille, made full and round; legs, yellow hackle; wings, white hen or pigeon. Brown bustard: Body, light brown wool or brown chenille, made full and round; legs, ginger hackle; wings, brown owl or darkish feather of hen pheasant wing.

**Butt** is the stoutest and lowest piece of a fishing rod. It should fit the hand nicely, be quite round, and possess a good skin either got up by polish or varnish, as any roughness of the handle chafes and blisters the hand. If the hands are soft, gloves may be worn, or an old glove fastened on the butt just where the hand grasps. Many of the best turned-out fly rods have their butts chequered, bound with leather, indiarubber, cane, or cork to form the grip. The old style of hollow butt has almost died out, as it greatly weakens the power of the rod. Giving the butt is a term applied to indicate the method of putting a heavy strain on a fish by raising the point, and consequently putting forward the butt of the rod.

**Caddis**, also called “cadbait” (in Ireland “corbait”), is the larvæ of several flies, found in spring under stones and

at the bottom of streams. It is covered by a case, which is smooth inside and rough outside. From this it partly withdraws and carries the case along, retiring inside at the least sign of danger. It is often used as a bait for various fish, but is tender and will not bear rough treatment in casting.

**Cane, Mottled,** is used in forming trolling or spinning rods. It can be made into a very light and stiff rod, easily handled, and costing comparatively little. Care should be taken not to have the joints, which extend over it every few inches, rasped down, as this weakens it. If near a river, the rod may be fast-jointed and never taken down; this is better than having brass joints, which are apt to get slack. This cane also makes a good handle for the landing net, and, being hollow, comes in handy for containing one or two spare tops of the fly rod. Cane is easily shivered if it hits a rock or stone, or if trodden upon.

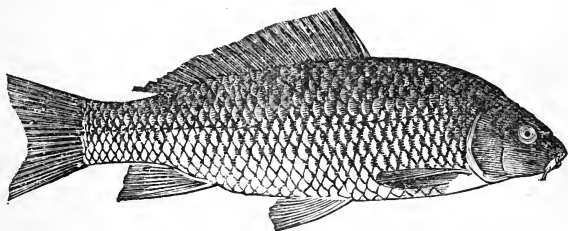
**Cap** is a comfortable and suitable head dress for the angler. It should be made of soft Shetland wool, of a dark smoky grey colour, well ventilated, so as to keep the head cool, with a peak standing well out in front to shade the eyes from the sun, and one behind is also useful. A button sewn every three inches on the band or rim is handy for catching the loop of a casting line when wound round the cap, and greatly preferable to using pins.

**Care of Health.**—Anglers often run the risk of getting a cold, or laying the foundation of rheumatism, lumbago, and other ailments, for the want of a little carefulness. Wet weather is generally good for fishing, and one is apt to hazard a wetting on the chance of making a decent basket. There is no necessity for this. Nowadays, waterproof coats and capes are made so

cheaply and so handy that there is no excuse for an angler ever going on an excursion without either one or the other. A cape is especially recommended to keep the shoulders dry ; it is easily thrown off the moment the rain ceases, and takes up little room when slung from the basket strap. It is very unwise to permit the shoulders to get wet, and to continue fishing in a wet coat. It is also necessary that the feet should be kept dry. Young anglers may wade during warm weather and incur no immediate danger, but it tells in the long run. If a stream has to be crossed, or an occasion occurs when the angler finds it necessary to enter the water, and he is not provided with waders, let him take off his boots and stockings, put the latter in his pocket, and if there is any danger of getting the bare feet hurt with rough stones, put on the boots. After the wading is finished, the feet may be dried with the handkerchief, failing a towel or other means ; the boots wiped out with dry grass or hay ; and then when the angler puts on the stockings and boots again he will not only feel most comfortable, but be safe as well. If one does happen to get wet feet, and there is no means of changing, better to walk and keep up the circulation in preference to either driving or going home by train, if distance will at all permit. On arrival home, bathe the feet in warm water, rub well with a hard, rough towel, and no bad results will follow. In going to fish at a distance, always carry a pair of dry socks ; they take up but little room ; put them on after the fishing is over, and before starting on the home journey. Be careful not to sit on damp grass ; spread the waterproof cape or coat before sitting down. Do not sit still while the body is warm and perspiring ; walk slowly about for a little, until the temperature is lowered. Never drink cold

water when in a state of perspiration, and always wear flannel next the skin. These remarks apply particularly to anglers who are over forty years of age.

**Carp** (*Cyprinus carpio*).—This is a rather handsome fish. It is leather-mouthed, destitute of teeth, but has some bones at the entrance to the gullet which serve as such. This fish is not a native of Britain, but was imported to the country by the monks in the fifteenth century. It lives to a great age, and can exist out of water longer than any other fish. The back is arched,



THE CARP.

colour of a golden greenish hue, very long dorsal fin, and the tail is broad and deeply forked. The carp lives on aquatic plants and the insects it obtains from them. Its fecundity is very great, more than one hundred thousand eggs have been taken from one of moderate size. It is found in ponds and the deep still parts of a river. The flesh is not much appreciated. Carp are wary and shy of taking bait, and not much sought after by the angler.

**Carp Fishing.**—The best bait for this fish is a well scoured worm, baited upon a No. 5 or 6 hook. Tackle should be strong, as the fish when hooked fights in a dogged kind of way. A light float ought to be used, and a sinker of shot to keep the worm on the bottom. The carp

nibbles at the worm, takes the tail off, and sometimes strips the hook altogether; it is no use striking until the float disappears. It is usual to ground bait the place where carp are to be angled for, doing this with broken worms, boiled wheat, rice, or peas. Sometimes three rods are employed at the same time with the bait at different depths of the water. When hooked, a tight line must be kept to prevent the fish from getting into the weeds, which are generally abundant wherever carp are found.

**Cast** is a term usually applied to that portion of a river known to be a favourite spot for catching fish—especially salmon.

**Casting** is the technical term applied to the act of throwing the flies by rod and line on the surface of the water when fishing. To cast well ought to be the aim of every angler, and careful attention should be paid to each individual cast—to get into a careless habit is not only unsightly but abortive. The cast made with a single handed rod should be from the wrist only, and no play with the arm above the elbow. The line must be brought round the head, either by the right or the left, with a nice even sweep, allowing the line to go out to its limit behind before returning it for the forward stroke. This is to prevent the flies cracking off. Casting should be practised with both hands, also underhand and side casting, as all these modes are found necessary at some time or other, owing to the peculiarities of the water or the surroundings of it. The point of the rod need not be thrown behind the head; there is no necessity for doing so, as the elastic qualities of the rod are quite capable, or should be made so, of getting the line well out with very little manual exertion. In casting, fix the eye on an object, or an imaginary one, if the first is

not available, beyond the spot, say a yard, where you intend the tail fly to alight, and the eye and hand will work in unison with wonderful precision. When casting, just as the flies seem about to alight on the water, raise the point of the rod slightly; this checks the forward movement of the main line, which pulls up, so to speak, the casting line, and causes it to level itself in the air, and to alight straight with all the flies in their proper position and without a splash. The tyro should devote a spare hour or two in practising casting on some quiet spot on the water; it will be well spent time. In salmon casting both hands are used, and a wider sweep of the heavy line is given. Always keep a sharp look out behind, that the flies do not come in contact with bushes or other obstructions, else a smash will occur.

**Casting Line**—sometimes called the “collar”—is attached to the end of the reel line by a “knot” or “hitch,” and serves to bear the hooks or flies. It is made either of silkworm gut or horse hair, and varies from six to nine feet long. If made from gut it should be composed of good round transparent threads, sorted so as to give it a distinct taper; that is, the thread of gut next the reel line is the thickest and strongest, the next finer, until the last, which is chosen the thinnest of all. These threads are steeped in tepid water for about half-an-hour, the curled shrivelled ends clipped off, and they are then knotted together, either by the “water knot,” or the “double fisherman’s knot” (*q.v.*). The latter is the neatest, and has the advantage of allowing the knots to be drawn asunder, so that the artificial fly link may be inserted when making up the casting line for fishing. Gut should always be chosen perfectly round, as flat gut is readily seen by the fish, as it glitters badly; it

should also be clear, not opaque, as the latter denotes brittleness. Horse hair casting lines are favourites with many good and careful anglers, and have many advantages. They are very elastic, and throw with great truth and lightness, keep very free from getting into kinks, and if they do, are very easily righted; but it is very difficult to obtain good hair, hence it is superseded to a great extent by gut. The best hair is obtained from the tails of cream-coloured stallions, four or five years old. All discoloured, wavy, or flat-shaped hairs should be discarded, and round transparent ones chosen. The casting lines from these may be made up in the same way as the gut ones, but it is an advantage to have what is called a "bridle" attached to them—that is: first next the reel line four hairs twisted, and then a length with three hairs twisted, and then the single hairs. This makes the line go out with greater perfection when casting. A hair casting line will not bear sudden jerks, but will stand an even pull of some pounds, and gives much pleasure to the observant angler in playing a fish, as owing to its great elasticity the weight of a fish seems very much more than it turns out to be when got into the net. It is invisible, or as near it as possible, to the trout, and will perform wonders sometimes in very clear water. It floats better than gut, and keeps the flies more lively. It should never be tried in rivers where fish run over one and a half pounds. When casting lines are rolled up after use, the larger the coil the better; they are more easily straightened than if coiled up small.

**Cast Nets.**—These are large bell-shaped nets from eight to eighteen yards in circumference, weighted with bullets round the edge, and have the latter looped up inwards to form a sack to hold the fish. They are used for



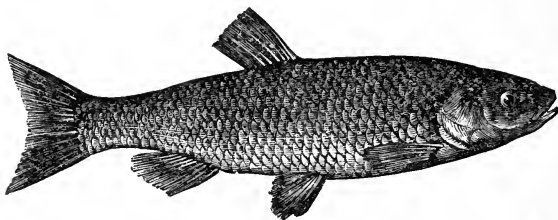
collecting minnows, gudgeon, &c., for baits. The meshes of body of net are large, but for one foot in depth round the edge they are made of suitable size for fish required, *i.e.*, either gudgeon or minnow mesh, because when the net is thrown over the fish they never attempt to pass through the meshes but swim to the outer edges, and so into the sack. The centre meshes have a cord run through them, and when casting, first tie it round the left arm above the elbow. Then take a part of the rim or edge of the net and throw it over the left shoulder, allowing the remainder to hang down to the ground in front. Then, with the right hand, gather up the net from left hand close to the leads, till, say half is held in the right hand, then throw the net from left to right into the water, swinging the body round at the same time, the object being to make the net open as wide as possible when falling into the water. This should be practised on grass first to acquire the method.

**Charr** (*Salmo umbla*) is a fish of the same genus as the salmon, to be found in some of the lakes of Britain, and is abundant in the Cumberland and Westmoreland lakes. The colour of the back is a dark olive, the sides lighter and spotted with red or white; the belly yellow, inclining to orange. The fins are small and the tail deeply forked. It is considered to be one of the most beautiful fish that swims, and is highly esteemed for the table, large quantities being netted for potting. They sometimes take a fly, but sport with them is very precarious. They also have taken a minnow when spun slowly. It is getting scarce, owing to its wholesale slaughter during the spawning season. Charr seldom attain a weight of two pounds.

**Check** is the term applied to the small ratchet wheels which are supplied to nearly all winch reels, and are useful to prevent the line running off too freely. It is from this check that most anglers strike their fish; the line should be free from the hand at the same time. Check reels when first procured from the tackle maker should be humoured so as not to be too stiff nor too slack. This can be done by taking off the cover of the reel, and either tightening or slackening the small screw nail which confines the ratchet. A check should have a soft sound when in use, not a sharp hard sound. When laid away for the season, the wheels and ratchet should be oiled with sperm oil to prevent rust.

**China Twist.**—This is manufactured in Japan, and is simply a hard twisted silk line, clear and semi-transparent, made from silk in its natural state. All raw silk is more or less covered by a gummy secretion, but the Japanese silk of which the above is composed is very thickly coated with this natural gum, and when made up into lines gives them the peculiar stiffness and clearness which is their characteristic.

**Chub** (*Leuciscus cephalus*).—A fish of the same genus as the roach, dace, minnow, &c. The body is oblong,



THE CHUB.

rather round, and the scales large. The colour is bluish black on the upper part of the body, and silvery white on

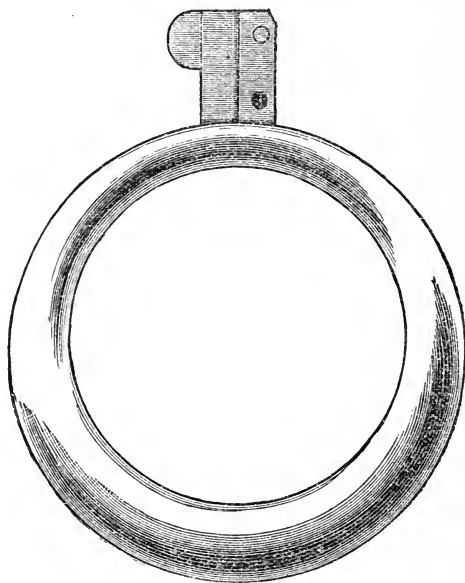
the belly. The cheeks and gill covers are a golden yellow. It rarely attains a greater weight than six pounds. The flesh of the chub is not much esteemed. They are found in deep holes, by a bank, under the shade of bushes. They may be seen basking on the surface of the water on the hot summer days, and afford good sport by daping. They spawn in April and May.

**Chub Fishing** is very fair sport. They rise well at the fly, and can be angled for with a variety of baits. It is a strong fish, but the first rush is the worst. In bottom fishing for chub, the rod should be rather stiff, with a light but strong casting line, a hook (No. 4 or 5), and a float; the line shotted, so as to allow it to sink. The hook may be baited with worms, grubs, beetles, cheese, or any bait that will give it a good rich mouthful. Ease the line off the reel, and allow it to go down with the current as far as the float can be fairly seen. When the float bobs strike well, and as the mouth of this fish is like leather the hold is good, and it can be easily brought to the net. Chub will take a frog which has had the hook passed through the skin of the back, thus allowing it to swim about. Daping is successful with the blue bottle fly, grasshopper, or cockchafer. The angler must conceal himself behind bushes or a tree, and remain motionless when allowing the lure to light quietly on the water, just as if it had dropped off the bank. The best artificial flies for chub are those called palmers (see list of chub flies), which should be dressed bushy, casting under the boughs of the trees, or such shelter as they may be seeking. Chub rise boldly at the fly; although they are shy fish, and easily frightened off. The shadow of a bird crossing the water is quite sufficient to scare them to their haunts. Care should

be taken to keep the line from getting entangled in the weeds, or getting caught on the hidden roots of trees, as the resorts of the chub are generally convenient to these obstructions.

**Chub Flies.**—Good flies for chub are the red and black palmers, larger than the ordinary trout flies, also an imitation of the humble-bee, a large alder or cinnamon, and other trout flies are at times very acceptable to this fish.

**Clearing Rings** are made of lead or brass, opening with a hinge, and employed for disentangling the hook when it gets caught on weeds in the water. Having a



CLEARING RING.

strong cord fastened on it, and opening the ring, it is slipped over the rod above the reel; it travels down this

and the line until it comes to the obstruction. If this is a stump or anything immovable, the clearing ring breaks the line off at this point; if the obstacles are weeds, small twigs, &c., the ring is allowed to travel off the line on to them, and by means of the strong twine which holds and guides it the obstruction is pulled away, and thus the casting line, flies, &c., are saved. It is not much used nowadays, but as it takes up little room, it might be fastened to the lid of the fishing basket, and will occasionally come in handy.

**Clear Water** denotes the peculiar colour of a river when it is free from flood or earthy matter. Streams flowing over granite, pebbles, or chalk are very pellucid, and there is great precaution necessary on the part of the angler to reach and fish such water, as fish, trout especially, are able to see very long distances in these streams. As a rule fishing clear water necessitates the use of very long lines. The angler has a better chance by wading than by walking along the margins, and his chances are still better if he can fish up stream. The dry fly and the worm are the most deadly lures for clear water.

**Close Season, The.**—This is the period in each year, determined by law, in which fish may not be captured. During this close season the fish spawn, and get into proper condition thereafter. The seasons are different for the various species, as they do not all spawn at the same time, and even fishes of the same species have different periods for breeding. There are early spawning fish and late spawning fish, and this depends very much on the particular waters they frequent. It is found that fish of the same variety will spawn in one river a month earlier than the same breed will, in a river not a mile distant,

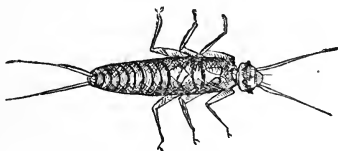
consequently it is from observation on the part of practical men that the close season for each district is defined ; and from time to time those periods alter, and it is the duty of the inspectors or overseers of these districts to study the habits of the fish, and note the changes taking place, and have the periods altered accordingly. Salmon and trout spawn in the autumn, and the average close season for them is from October till March ; in some districts from September till March. In many localities the salmon will begin to run up the rivers as early as January, quite fresh, and in good condition ; and still these fish may not be angled for until February or March, and the season will be open till September, when really they are foul in August. As a rule, trout are not in good condition till the hawthorn begins to show green leaf, as up till then very few if any flies hatch, and, consequently, the fish are short of food. The weekly close season is from noon on Saturday till six o'clock a.m. on the following Monday, with a few exceptions—this season is only for nets. (See “Laws, Fishery.”)

**Coat.**—(See “Dress.”)

**Corks** are used as floats to denote when the fish is at the bait under the surface of the water. The slabs of cork are first cut into squares, and then turned on a lathe into the various shapes and sizes that are in use—from the half-inch round float to the four-inch pike float. The shapes are egg, thin barrel, pear, sneck head, pilot, live bait or Jack float, trimmer, &c. After the cork is turned, it is ground on stone ; next, the cavities are filled up with putty, the quill is inserted, and the plug is bound in its place ; the rings are whipped on, and the cork float is then painted and varnished. All the varieties mentioned can be procured from the tackle makers.

**Cotton, Charles.**—A notice of this writer is almost a *sine qua non* in any book relating to angling, as he was so closely associated with the father of angling—Isaac Walton. He was an expert angler as well as an industrious writer. Born in 1630, after his school education he was sent to Cambridge. In 1656, he married a daughter of Sir Thomas Hutchinson, of the county of Nottingham. He published his first work in 1663, and in the year 1676 he published the second part of the "Complete Angler," in conjunction with Isaac Walton. The work is similar in style to the first part published by Walton, and since then this celebrated work has always been published as the writings of Isaac Walton and Charles Cotton. He died in 1687, at Westminster.

**Creeper, The,** is the larva of the stone fly, and is a disagreeable looking animal, but trout are extremely fond of it, and consequently it is used very generally. These creepers



THE CREEPER.

are found under stones in shallow streams, very near to the edge, and are so active in their movements that they are not easily captured. When caught, they can be put in



a perforated box, with a little damp moss. They will live for some days in this. They are generally baited on a special flight of hooks; one of the hooks is run under the

throat, bringing the barb out near the tail, and the top hook is run upwards through the head or neck. Some anglers use only one hook, having a short bristle lashed to it, pointing towards the shank. This can be inserted in the creeper, and will prevent it slipping off. The bait must be cast gently, as it is rather tender. It is fished up stream, exactly the same way as the clear water worm. The best portions of a stream to fish are the edges, where trout are always on the watch for creepers, and also in all broken water and strong eddies. The line should be about two yards long, not too fine, and a small shot added six inches above the bait, as it is essentially necessary the creeper should be well down in the water. No landing net is required, as the line ought to be strong enough to lift a heavy trout. No use fishing with this bait in deep still pools. Strike quickly, and, as generally large fish take this bait, be cautious in handling. Before striking, depress the hand and rod for a moment.

**Cushions** made of thin cork wood, to fold up, and covered with baize, can be carried in the fish basket, and are very serviceable to sit upon in a boat, especially in



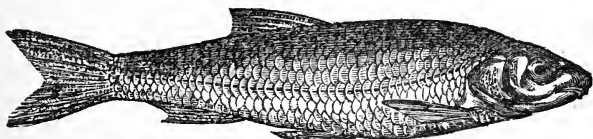
FOLDING CUSHION.

wet weather. They should be dried in the air after use, and will last a lifetime.

**Dace** (*Leuciscus vulgaris*), a lively fish of the carp species, found in deep clear water and quiet streams, abounding in the Thames and many other English rivers. They are in form not unlike the roach, rather longer, with larger mouths and smaller scales. The upper parts



are dusky blue, paler down the sides, white on the belly, and the cheeks and gill covers silvery white. They spawn in April and May, and very soon get into condition. Dace afford sport to the young angler, and will take all varieties of bait, but especially a bright lively red worm. The angler must be very quick in striking. They give a good deal of sport with the fly, principally little black or red palmers, very fine tackle, and a light rod. It makes the lure more enticing if there is a maggot or a gentle put on the barb of the fly hook. They need to be approached cautiously when



THE DACE.

whipping for them, as they are easily frightened. The best weather for them is when it is warm and dull, with no ripple on the water; they rise quickly, and blow out the fly if not struck the moment the stir is seen on the surface. The style of fishing for roach will do for this fish as well. When in good condition they are esteemed by many for the table. In bottom fishing it is well to ground bait, or to stir up the mud so as to discolour the water, then the lure, whether maggot, worm, or gentle, should be about four inches off the bottom. Use a cork float.

**Daping, Dipping, or Debbling** is the term applied to angling for fish with the natural insect or fly. The rod required is one inclining to be stiff, but it must be handy and light, as it is used single-handed. The line may be either floss silk, or silk and hair, with a very fine casting line of gut or horse hair; this casting line

need not exceed three feet in length, as only one fly is used, and none of the line touches the water. The hook is a round bend special make very small No. 1 or 2, Kendal scale. On this the natural fly, which may be a blue bottle, a moth, or beetle, is impaled, and the lure is then allowed, with a quiet motion of the wind, to be wafted over the rising fish or the spot where a fish is supposed to be. The fly may be allowed just to hover on the surface of the water, and is sucked in by the fish, when it is struck and played. This style of angling may be done from a boat, when daping is comparatively straight work, but very often it is practised from the bank of a river overhung with bushes, briars, &c., and underneath which the trout are lying waiting for flies which drop off the bushes. In this case the line is shortened until only the cast is free of the top, when the latter is wound round the point of the rod, by turning it in the hand until all the line is rolled up to the hook. The rod is now pushed through the intervening bushes until the point is clear of them, when the line is unwound and the fly allowed to descend to the water. The angler must be very quiet in his motions; no shaking of the rod or bushes, and everything must be kept out of sight of the fish, unless what cannot be helped. In the warm summer evenings this is a very successful way of capturing fish, and they are usually good ones too. This is a favourite mode for angling for chub, which are generally found in shady spots close to the banks; it is also the style for the celebrated green drake fishing, which is very exciting sport while it lasts. (Described elsewhere).

**Derby Twist.**—This is a spun silk line made in different degrees of thickness, and used by barbel, roach, and occasionally pike fishers.

**Detached Bodies** are obtained, in forming some sorts of artificial flies, by fastening in with the arming a few hog's bristles or a couple of small clippings of fine gut, letting these rise away at a slight angle from the body of the hook, and instead of finishing off the body of the fly to the bend of the hook in the ordinary manner, the body is made on these bristles and carried up to form a taper body and tail. These detached body flies are intended to represent insects which may be seen raising their bodies up from the surface of the water. Some of these bodies are made of cork, stained or ringed, others of indiarubber, but mostly from proper coloured silks.

**Disgorger** is made from bone, wood, or metal. It is shaped like a long needle, with a cleft at one end and an eye to attach it by a string to a button at the other. The disgorger is used to push back and thus release a hook which may have been taken far down the gullet of a fish. It is seldom used, except in the case of taking a hook out of a pike's throat. It is dangerous to put the fingers into this fish's mouth, as its teeth inflict nasty wounds, which, if received, are not easily healed. The disgorger can be carried in the fly book, or attached by a string to the lid of the fishing basket. A new one is now made of brass, eight or nine inches long, with a groove at one end to slide along the trace until it reaches the hook. There is also an excellent disgorger made like a pair of scissors, which will extricate any hook in the throat of a fish.

**Double Brazing**, a term used when the male ferrule of a rod is bound entirely with brass or other metal.

**Drawn Gut** is the ordinary silkworm gut scraped down by a certain process of drawing it through minute holes in a steel plate, which renders it very thin, but

to a certain extent deprives it of transparency; as the outer skin is taken away this gut is not nearly so strong as the ordinary undrawn. It is greatly used for very fine fishing, will not bear a heavy strain, and when playing a fish care should be taken not to give sudden jerks with it, or it will give way. It is much used for links for tying on to small fly hooks, and as the link in this case is short it will stand a very fair strain. It does not wear well, soon becoming chafed by the action of the water when made up into a casting line. Being so fine renders it almost invisible to the trout. It is of great service in bright weather and clear water, when the ordinary gut would be useless. Gut should always be kept in a roll of chamois leather, fine flannel, or guttapercha paper, to protect it from the air. This applies to all gut, drawn or undrawn.

**Dress.**—It does not matter much what the cut of an angler's coat may be, so that it is easy fitting and has plenty of pockets; but it is essential to be particular about the colour of the garment, especially when trout fishing, as these fish are remarkably sharp in their sight, and do not like any striking or glaring colours. The best colour is a neutral grey, and the material wool. If the angler chooses to provide himself with a proper angling dress, the best sort is a Norfolk jacket and knickerbockers, made from what is known as Donegal or home-spun frieze. This mixture is got from one fleece of black wool and three fleeces of white wool, and is a warmish grey colour. The texture is open and prevents overheating, and so kindly and soft it will not allow the body to chill. Being made from the natural undyed wool with the oil in it, it turns a shower of rain wonderfully; and should it get soaked through, it dries quickly and does not feel damp. If a hook catches in it, it will draw easily from

the thread, and seldom requires to be cut out. The jacket should have plenty of room about the armpits, a broad belt to encircle the waist, and a small buttoned shoulder strap to confine the girth web strap of the fishing basket, to prevent it rising over the collar of the coat, as it is apt to do from using the arm in casting. The knickerbockers can be used with or without waders, and, if properly made, are the most comfortable of nether garments. A man, when fishing, should always wear a flannel shirt with turn down collar, loose at the neck. It is always well for the angler to carry with him either a light waterproof coat or cape. This can be strapped to the basket, and increases the burden very little. The stockings or socks worn should be hand-knitted, made from Alloa wool, which is strong and stands the wear and tear of going through briars, furze, &c., and heather mixture or grey are the best colours.

**Dropper** is the name given to each artificial fly depending from the casting line above the terminal or stretcher fly, which is at the extreme point of the casting line. The lowest one is called the first dropper, the next the second dropper, and if there are more they go on thus by numbers. These droppers should hang on a link of gut, in length about two and a half inches. Some anglers, in making up their casts, have the first dropper two inches, the second three inches, the third four inches; but this is only a fancy, as they do well of equal length, if not better. The idea of the varied lengths is that they would all alight on the water at the same time. The objection to long droppers is that they are apt to get twisted round the casting line more readily than short droppers, and are not so easily shaken loose, as they occasionally throw themselves into a regular knot when casting against a wind. The mode of

attaching these droppers to the casting line is described under the heading of "Knots" and "Casting Lines." Always examine carefully the link of gut attached to the droppers, and be sure that it is not damaged at the head, as this is the spot where it generally gives way.

**Dubbin.**—This is the name given to the various greasy compounds which are used to keep the angler's boots soft and to preserve the leather from the effects of water. There are several recipes, viz. :—One pint of raw linseed oil, half-pound mutton suet, quarter-pound beeswax, one ounce white resin, melted together in a pipkin; to be used when milk-warm, and applied with a short-stapled brush.—India-rubber cut into thin slices, and put into a pipkin with either tallow or mutton suet, and allowed to stand on the range or the hob near the fire until it gets into a homogeneous mass; this will take some days before it is melted thoroughly. This dubbin should be rubbed on the boots when damp, with the hand; it gives a complete coat of indiarubber; it is a very dirty article to use, soiling the hands. There is a softening dubbin made to rub into the boots when they get hard—one pint of linseed oil, two ounces beeswax, one ounce Burgundy pitch, two ounces turpentine, melted together in a pipkin. This can be used cold, and should be rubbed in with the hand before a fire; two or three rubbings will make the leather very pliable and easy on the feet. Castor oil, well rubbed in, renews the life in boots when the leather has got hard and cracked. The best dubbin for the soles is made from any of the above recipes, adding a little coal tar. Care should be taken in using these dubbins on boots worn over fishing stockings not to allow any of the grease to get inside the boot, else it will decompose the indiarubber of the waders and render them useless.

**Dubbings.**—The technical name given to various materials which are employed to form the rough or hairy bodies of artificial flies, mainly composed of furs taken from the hare's ear, the squirrel, the mole, the water rat, the white seal, and black and grey rabbits; the wool or hair from a pig; also mohair of various colours, and wool or dyed worsteds. All these can be used singly, or they may be teased and mixed together in proper proportions, and, being nicely shaped up into a roll, are twisted or spun round the well waxed tying silk, and then round the body of the fly, forming it according to the shape of the natural insect. Many anglers go in entirely for these rough bodies in preference to the silk covered ones. The latter is much smoother and shines very perceptibly. A fly can be made either by floss silk, waxed silk, or by dubbings, which will go to represent the natural insect of whatever kind it is intended to imitate. Take for instance the blue dun fly. English dressers prefer to use silk for the body; Irish dressers use the fur of the mole, or that taken from the flank of the water rat—both are successful imitations.

**Dyeing** is the art of staining or colouring by means of dye stuffs the materials used in making artificial flies, as well as the casting lines, and the rods, nets, &c. If wool or feathers are to be dyed they must first be deprived of the natural oil which they contain; this is done by immersing them in a weak alkali, such as soda, potash, or alum. The latter is the safest to use, for it hardens the fibres instead of softening them, as the other alkalies have a tendency to do. After the materials have been in the alkali for some time they are well washed, and then immersed in hot decoctions of the various dye stuffs which are chosen to produce the desired colours. Recipes for the different

colours can be found in books devoted to the purpose. Dyed materials are not to be compared for permanency to the natural colours, especially feathers, which very soon get worn and bleached looking in the water. Mohair, seal's fur, and wool used in the composition of the bodies of flies can be dyed pretty fast colours. The new aniline dyes are very easily applied, and are very bright in hue. Crawshaw's dyes are highly spoken of; instructions are given how to use them. Salmon flies generally are largely composed of dyed materials, on account of the brightness necessary in the composition of them. Many fly dressers are their own dyers, as great stress is laid upon special shades of colour, which experience and practice alone can obtain. Interesting instructions about dyeing materials for flies are given by Halford and other writers.

**Eel** (*Aquilla vulgaris*).—A serpent-shaped fish, found in nearly all waters. It is destitute of the ventral fin, and covered with a thick, soft, slimy skin, the scales being minute and often invisible to the naked eye. The gill orifices are very small, and as they are situated far back, there is a long passage from the gill chamber outwards; hence, the gills not becoming dry, these fish can remain out of their natural element for a very long time without receiving injury. They are extremely tenacious of life. There are three well-known British species: The broad-nosed, the snig, and the sharp-nosed. The latter sometimes attains the weight of thirty pounds, and is considered the best-flavoured of the three varieties. Eels are different from other fish, in that they descend rivers to spawn. Young eels, in countless myriads, when spring comes, ascend rivers when barely one inch long; and so strong is the instinct impelling them to ascend,



that they surmount obstacles apparently sufficient to arrest their onward progress. They will leave rivers and go over land, making their way at night through damp grass, getting back to the river when daylight appears. The eel is highly esteemed for food, and, when stewed, is considered a dainty dish. The London market is largely supplied from Holland. Eels caught in the River Bann, coming out of Lough Neagh, in Ireland, are very large, firm, and well-flavoured. Weirs or traps on this river are very remunerative; twenty tons have been captured in one night, in heavy water.

**Eel Fishing** is not a very high-class sport, still an angler may amuse himself in trying some of the various methods of capturing this fish. The simplest and least troublesome style is with the rod and line. Bait the hook with a worm, let it trail along the bottom of a muddy river, and when the line stops give a moment's time, and then pull up; when, if the eel is on, it may be thrown out, and the hook cut out. There is no necessity to use a float with this rig, but a few shot placed on the line, a foot above the hook, help to keep the worm on the bottom. Very often the eel is taken when the angler is fishing for trout in flood water. Sniggling is another method, and is the favourite amusement of the youthful rural angler. The tackle used is a few yards of strong whip-cord, which is fastened to the middle of a darning needle; the needle is thrust into a long worm until it is thoroughly covered. The point of the needle is slightly pushed into the end of a strong hazel or ash stick, six or seven feet long, which may be cut out of the hedge. The free portion of the line is caught in the left hand, the rod in the right, and the baited needle is pushed down into some likely hole under the water,

where, if an eel is located, it will swallow the worm at once; when the tug is felt withdraw the rod gently, and in a minute give the string a pluck which will cause the needle to get across the gullet or stomach of the eel and stick there, when the fish may be pulled out. Another method of catching eels is called clod fishing. A number of worms are threaded on as many short strands of worsted, and the whole made up into a cluster, fastened to the end of a short cord, which is thrown into the water and allowed to go to the bottom; when the eel comes at the bait, the cord is lifted, and the worsted getting entangled in the crooked teeth of the eel, it is not able to get rid of it until hauled out, when the fish can be dropped into a can of water to keep safe till killed. The clod can be again thrown in and the process continued so long as there is an eel in the hole. Eels feed more at night than in the daytime, hence night lines are successful in capturing a number of these fish. When unhooking an eel, the plan is to put the foot across the back, near the head, and sever the vertebra of the fish with a penknife. It is difficult to kill eels; they will show life after being skinned. It is to be hoped that they don't feel pain, as some assert.

**Eel Lines**, for catching these fish at night, consist of strong, tolerably fine, well-twisted cord, which should be varnished. To each end is fastened a weight of at least four pounds, either lead or stone. At intervals of two or three feet, droppers of fine gimp, or cord with a gimp ending, should depend, each armed with an eel hook upon which a worm is baited. Drop one end into the water, and, having stretched the cord to the full limit, drop the other end; lift by a boat hook first thing in the morning; an easier plan is to attach one end to a fastening on the bank, and it

can then be lifted without having recourse to a boat. Night lines should not be allowed in a trout stream, otherwise many a good trout falls a victim.

**Eel Spears** are implements used for capturing eels as they lie buried in the mud. They are usually four or five-pronged flat steel forks with jagged edges, distance between prongs about three-quarters of an inch, attached by a socket to a smooth light pine handle or shaft from eight to twelve feet long. The spear is driven down with some force into the mud, and if it comes in contact with an eel it jams it between the prongs. The sport, which is fatiguing, is generally carried on from a boat, at the mouth of sluggish rivers as they enter the sea and in harbours containing brackish water.

**Ephemera** is the name given to certain insects whose existence as perfect flies lasts, in some sorts, only a few hours, and very seldom more than a day. They are distinguished by the smallness of the hinder wings, have only a very rudimentary style of mouth, require no food, and are possessed of slender filaments attached to the lower end of the body. The eggs hatch and pass into larvæ, which remain for two years in the water. They make for themselves burrows in the mud of the stream or pond. At the end of two years they rise to the surface, casting off an outer skin which liberates the wings, and the pupæ fly to some stick or obstacle, to which they attach themselves, and by their own exertions and the heat of the sun cause a second skin to burst, and the fly now exhibits its brightest colour, and takes to flight. They breed, drop their eggs on the water, and die. The *ephemera vulgata*, or green drake, is to be found in profusion in a few

localities, and are favourite baits for trout, who gorge themselves to repletion on the countless insects which skim along the surface of the water. The trout prefer the female fly containing the eggs. The male green drake is nothing but a bag of wind. The female pseudimago is the green drake—the perfect insect is the grey drake.

**Feathers** enter into the formation of the wings and hackles of artificial flies, and contributions are levied upon nearly every member of the feathered race. The wings of trout flies are usually obtained from the starling, woodcock, snipe, partridge, dotterel, landrail, water-rail, grouse, hen and cock pheasant, &c. The hackle feathers principally from the neck or back of head of game cock, neck feathers of the domestic hen, the partridge, and tail feathers of the wren. There is no feather that contributes to the manufacture of the variety of trout flies more largely than the wing feather of the cock starling, taken from the inside of the pinion; it can be got with a variety of shades, from light slate to almost black. It is an easy feather to work with, being firm in texture and holding a close web. The next principal feather for wings of trout flies is the landrail; this also is an easy feather to keep in shape, and choice of colour can be had in this feather as well. The partridge tail is a very universally employed feather, either by itself or in conjunction with others; it is a little difficult to keep it in web, apt to get straggling in fibres, but it forms a pretty and taking wing. The fibres of the dark mallard enter very extensively into the formation of tails of trout flies, and the red game cock's neck furnishes a most generally used hackle. It is nearly impossible to possess all the feathers used in fly making, but it is no harm for the angler to obtain as many as possible; and in his rambles in the country, should he

come across some good feathers of any kind it is well for him to get hold of them; if he does not care to use them himself, his fly dressing friends will be very pleased to have them. Real good, well-coloured, well-shaped feathers are more difficult to get than any one would imagine. Many of the feathers used in fly making, especially for salmon flies, are dyed, as the latter are generally gorgeous in colour. All feathers should be viewed by transmitted light, that is by holding them up against the light and judging their colours by the transparent view presented; it is in this way that the fish see them, and no other; the appearance of a feather as to colour seen by reflected light is very different from that of transmitted light. A study of these two distinct views is well worth the angler's attention. The feathers that are principally used in the manufacture of salmon flies are the blue and buff macaw tail; these are very valuable. A good feather from the centre of the tail is worth about two shillings per inch; of course very little is used—only two fibres to put as feelers on each side of the wing. Summer, Canadian, or wood duck furnish very essential feathers for mixing with the wings. These are the ones with the distinct black bars across the fibres; they are very striking in appearance. Also those of the bittern, owl, heron, and lapwing. Red macaw tail feathers are used occasionally, not so much as the buff and blue. The jungle cock's neck furnishes very useful feathers; in fact, nearly all bright salmon flies have one or two portions of them in—they go to form the sides and cheeks of the fly. Toucan breast feathers are for jointed bodies, most notably for the celebrated Jock Scott salmon fly. Golden pheasant crest feathers go to form the topping overlapping the wings of nearly all the best salmon

flies, also for tails of these, and very often for tails of trout flies. Golden pheasant tippet feathers are used in several flies for the wing, such as the Durham ranger, black ranger, and others. Golden pheasant spotted tail feathers partly compose the wings of many salmon flies. Kingfisher feathers are used for the cheeks of several flies, and give a beautiful and attractive appearance. The foreign kingfisher yields the more useful feathers. Blue chatterer is another foreign bird that contributes its beautiful blue feathers, and these go to form the cheeks and sides of the fly. Red ibis: A red feather got from this bird comes in occasionally, but not to any great extent. Indian crow neck gives a feather very highly prized by the salmon fly dresser. It has a colour peculiarly its own. It is useful for tails and jointed bodies, such as the Popham fly and several Irish patterns of salmon flies. Indian bustard feathers for wings, not only for salmon flies but for loch trout and some of the ordinary trout flies; a valuable feather. The ostrich herl, nearly always brought into requisition for butt and heads of salmon flies, and invaluable. Argus pheasant and turkey feathers are used for entire wings, and sometimes for mixing. Eagle feathers: These are used for the celebrated eagle flies, but are not in great demand.

**Fishing Rods** form a very essential part of an angler's outfit, and are endless in variety as to shape, size, and finish. There is every opportunity now-a-days given by the tackle makers to choose the right sort from their varied and extensive stocks. A purchaser will find it to be to his advantage, when buying a rod for the first time, if he has the advice of a friend who is a practical angler. It is unwise to buy a cheap and consequently a poor rod at first, under the mistaken notion that any sort will do to learn with. Any

sort won't do to learn properly with, and the education received by the means of a poor rod is so much time thrown away. Very soon the rod will be thrown away also, the cost of which is lost, and would have been more wisely added to the price of a good one. It takes some little time before the angler, be he tyro or professor of the art, becomes acquainted with the capabilities of his rod and what it will do for him. Rods are made from a variety of woods (see "Rod Making"), but the wood that is now to the front is greenheart, especially for salmon and trout rods. It makes a powerful, yet elastic and easily-handled weapon. A fly rod made from it is capable of hooking and playing a one pound trout, and quite able, if the occasion turns up, of hooking and killing a ten pound salmon. A fly rod should give a perceptible spring right down to the hand. Some anglers prefer a stiff rod and others a whippy one. The latter is a little more difficult to work with, especially casting against the wind, and does not lift the line so cleanly from the water. Many of the rods are made with small handles—for instance the Castleconnell rods; others, especially the English makes, have a good grip—at least one inch in diameter where the hand grasps—and the rod in this case tapers off suddenly. Others have false handles fitted over the thorough wood, made from cork, fancy wood, lapped cane, leather, or lapped with twine like the handle of a cricket bat. The preference should be given to the solid wood handle, as it gives a more commanding grip. The fewer splices or joints there are in a rod, the more perfect the playing powers. Except for convenience, it would be better if it had no joints at all. But this would render it awkward to carry about. One splice or joint is quite sufficient in a nine or ten foot rod, two in a twelve

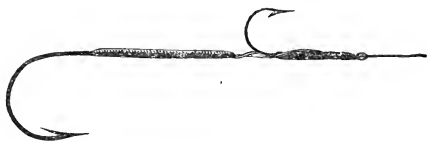
to fourteen foot rod for trout, or sixteen or eighteen foot rod for salmon ; that is to say, rods up to ten feet are better in two pieces, above ten feet to eighteen feet they are better in three pieces. A pleasant style of fly rod to use is one of eleven to twelve feet long, with a brass taper joint either locked or plain between the butt and middle piece, and a waxed corded splice joint between the latter and the top piece. Most rods give way at the top joint owing to the wood being small there, and when making a heavy cast against the wind the brass joints, which, wrongly in many cases, are let into the wood the thickness of the brass, act as a knife, and snap the wood off close. The wood should never be cut to allow the ferrule to be fixed flush ; in all the best rods the ferrule is driven tightly on the joint over the wood, and if this is done and the wood well seasoned it will never move. The wax-corded lapped splices, when properly put together always give satisfaction, but to make these right takes up some little time, which on the banks of a stream is apt to cause the angler to lose patience and to hurry over the job, lest he should miss the trout which he sees rising on each side of him ; consequently the joint is only half made, and works loose, especially at a critical time. Besides, when tying, this joint necessitates the angler wearing gloves to prevent the wax adhering to his fingers, which it will do in a determined manner, and is only to be got rid of by an ample use of hot water and soap. If a flat silk braid is used, much wax is unnecessary ; silk takes a better "bite" on the wood than cord or thread. A single-handed rod should never be longer than twelve feet, and this length will cover all the water necessary. For wooded or narrow streams, a rod nine or ten feet is very suitable. A double-



handed rod for trout is about thirteen or fourteen feet long, and this length will suit well for lake fishing or trolling from a boat. A salmon rod is seldom less than sixteen feet, and rarely more than twenty. There are rods called "general rods," which can be used for various styles of fishing by having top joints of several strengths and lengths fitted. These rods are not very satisfactory, as the balance of them cannot be properly obtained. A fly rod should never be used for any other style of fishing. Spinning and trolling rods are often made from the hollow mottled cane, generally with the top piece made of greenheart. These rods are very light and powerful. A spike to a rod is an useful adjunct, although it is now considered to be old-fashioned. It comes in handy to keep the rod upright when loosening a fly that has got caught in a branch, and it keeps a rod and line out of harm's way by sticking it in the ground when the angler is resting or changing his flies, or when a friend comes round to borrow a fly or interchange views on the sport of the day. It is dangerous to lay the rod on the ground; many a good one has been smashed past all redemption by being trodden upon inadvertently. Most of the present style of rods are finished at the butt with an indiarubber or turned wooden button. Some anglers prefer a top-heavy rod; it certainly lifts a long line from the water well, and casts a heavy line against the wind comparatively easy, but it is tiresome on the arm. Rods if not varnished—which many anglers have an objection to—should be French polished and kept well oiled. After the day's fishing is over, the rod should be wiped dry and clean with a soft cloth and put away in its waterproof case, and then laid down flat on a dry floor or table, or hung up by one end from a nail on the wall, or put in rod rest (*q.v.*).

It is a very common but mischievous practice to lean them up in a corner like walking sticks; this will certainly give a set, which, if it once occurs, will never be got rid of, and will spoil the fine casting powers of any rod. The rings of a rod should be large, even at the expense of appearance, as with these there is less danger of a foul when the line is running than if they are small. It is gaining in favour to have upright rings now fastened on trout rods. They are a little awkward to handle in the case, else there is no objection to them. The weight of these rings alters the play of rod. The tying of the rings should always be carefully attended to, and kept well varnished to prevent them from becoming loosened. Rods should be stained a dark, sombre colour, such as brown or drab. All light and bright colours ought to be avoided. Trout as well as salmon rods should be furnished with an extra top, which can be carried in the handle of the landing net or gaff.

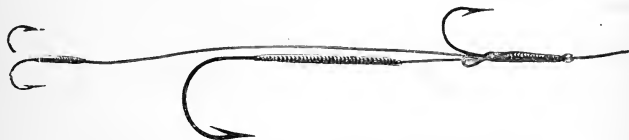
**Flights** are certain combinations of hooks, either single, double, or treble, which are fastened to short links of gut or gimp, according to the kind of fishing, viz., trout, sea trout, salmon, or pike, and are used for dead and live bait spinning. The simplest is one large hook with lip hook.



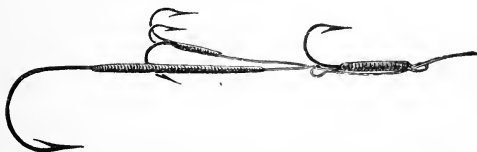
LARGE HOOK AND LIP HOOK FLIGHT.

This is a tackle greatly liked in Scotland and the North of England. The next is the same, with a flying drag hook, which is recommended by the late W. C. Stewart in his

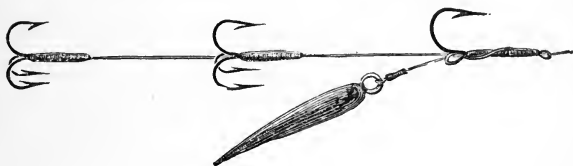
“Practical Angler.” Another favourite flight is the large hook and lip hook, with triangle to fasten in the back of bait. This flight is highly spoken of by the late Francis Francis. The Pennell flight, which has a lead to go into the body of the bait, has a good reputation. There is one



LARGE HOOK AND LIP HOOK FLIGHT, WITH FLYING DRAG.



LARGE HOOK AND LIP HOOK FLIGHT, WITH TRIANGLE.



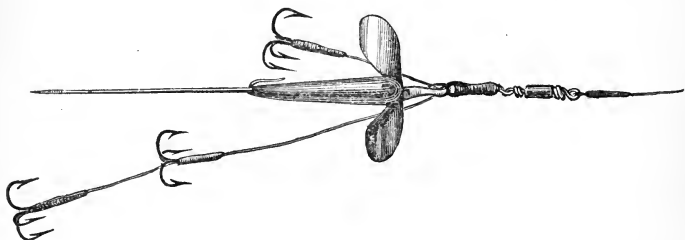
PENNELL'S FLIGHT.



THREE TRIANGLES AND SHIFTING LIP HOOK FLIGHT.

made up with triangles and lip hook, and another one with screw fins and lead, which is pushed into the mouth of the dead bait, and the triangles are then fastened in the sides or back of the fish; it is sometimes called the “Chapman

Spinner." The angler can, however, choose any sort he likes from the endless variety offered by all the tackle



CHAPMAN SPINNER.

makers. All these patterns answer if they are properly baited and worked well.

**Floating Flies** are used for dry fly fishing, and are now becoming very fashionable. They are dressed on eyed hooks specially manufactured for the purpose, also on hooks tied on gut like the wet flies. The wings and hackles of these are rather heavier than those of the ordinary trout flies, but the mode of dressing them is very similar. The dubbings mentioned under the head "Dubbings" are used to make the bodies; also maize straw and the small quills taken from the pinions of various birds, and as the latter can be dyed any colour, and stand the water well, they are very suitable to the purpose. The bodies made from maize straw are not so lasting, as they suffer considerably from the teeth of the trout when hooked. Fish scales are employed as wings, and also the wings of natural flies; these latter, of course, look very real, but they require great care to keep them in shape, and must not be carried in a book, but in a box or other receptacle where they will not be crushed. Floating flies, having the wings of fine silk,

showing the veins in exact imitation of nature, have been lately introduced by a London firm of tackle makers. The wings are prepared by a patent process, and are most life-like copies of aquatic flies. Quills, when used for bodies, must be steeped a considerable time in water before they are pliant enough to wind. It is claimed for these floating flies that they are much closer imitations of the natural fly than the ordinary wet ones. They require to be so, as they are generally used in very clear water, and, no doubt, undergo a severe scrutiny from the wary, watchful trout.

**Floats** are made from cork or quills, or both combined, and are attached to the line a certain length from the hooks and bait, so as to keep these the desired distance from the bottom, according to the studied plan of the angler, learnt by experience. The float by its movements serves to give notice to the angler when a fish is attacking his bait, and allows him the opportunity of striking. These floats can be obtained all sizes, shapes, and colours. (See "Corks.")

**Floss Silk** is employed to form the bodies of many artificial flies found in either a salmon or trout fisher's book. As it is fine in the fibre and not hard twisted, it can be manipulated to form very even taper bodies. It may be had of almost any colour, and as the dyes are good, it stands the water well without bleaching. Floss silk is also used by the angler to form his "blow line," which he uses for fine dapping for trout—principally in lakes or large sheets of water—from a boat. A short casting line of very fine gut is attached to one end of it; the other end is fastened neatly to the main reel line, so as to appear a continuation of it. The rod used is long and light, and the angler raising it up allows the blow line to be wafted nicely by a breath of air over the spot where a fish is supposed to be. The lure

being a natural fly, impaled on a daping hook, moves naturally on the water, and is too enticing to be resisted generally. The silk is strong, and will play a fish well. Care should be taken to keep it dry, and not allow it to get cut or frayed when winding up.

**Fly Cast**, also called "point," "lash," and "stinting," is the portion of the single gut or single hair line to which the flies are attached. (See "Casting Lines.")

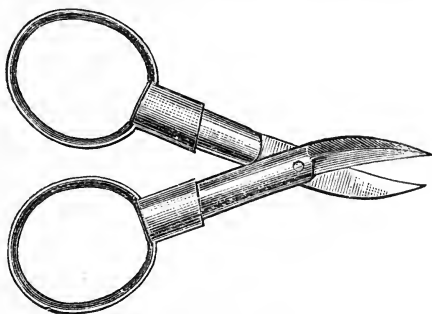
**Fly Dressing Tools and Materials** consist of small table vice, pen-knife, scissors, fly tweezers, dubbing needles, gold and silver tinsel of various widths, gold twist, reels of different coloured silks for tying, floss silks of colours, shoemaker's wax and marine glue, wools of colours, mohair, furs of various kinds, feathers and hooks. These should all be kept in a properly-constructed box, with partitions to keep each variety or material separate. The box ought to be airtight—one made from camphor wood is a luxury, as no moths will attack the furs and feathers contained in it. All fly material boxes should be inspected often to prevent the ravages of these pests. Camphor is a great preventive, and should be liberally used among feathers. Scraps of Russia leather, to be obtained of any first-class bootmaker, should be carried in the pockets of the fly books for the same purpose; the smell keeps away moths.



FOLDING SCISSORS.

**Folding Scissors** are handy implements for the angler's pocket. Some have the blades extended lengthwise,

and others fold up with the bools overlapping each other.



READY FOR USE.

They are better electro-plated, being not so liable to rust as the plain steel ones.

**French Polish** is useful to finish off rods or landing net handles, and preferable to varnishing, as it is devoid of the glisten or shine, which is more or less objectionable on account of it being easily seen by the sharp-sighted fish. It fills up the pores of the wood, and an occasional rub of linseed oil will keep all in proper order for years. A good reliable polish can be made as follows:—One pint of methylated spirits wine; half-ounce gum copal; quarter-ounce gum arabic; one ounce shellac. Place the spirits and the gums in a vessel closely corked, put near a warm stove, and shake frequently; in a few days all will be dissolved, when it should be strained through a piece of muslin and kept well corked. French polish can be obtained ready for use from most druggists, but the best is generally to be had from cabinet-makers, who have their own special recipe.

**French Polishing.**—Pour a little raw linseed oil into a cup, and some of the French polish into another.

Roll up a small cutting of soft old flannel in a ball or pad, leaving the edges out to form a grip. Put a little of the polish on the ball ; over this draw a small piece of fine old linen rag, free from starch. The polish will make its way through, when a single drop of linseed oil may be put on the rag with the finger. The ball of flannel and old linen is held firmly in the hand, and with a brisk, light circular motion, the wood to be polished is gone over, doing a small portion of it at a time. When the rubber feels sticky, renew polish and oil same way, and proceed until all the work is well filled up, and presents a nice skin. Sometimes a roughness comes on the wood on account of the polish rubbing up into lumps. When this is the case, go over the work with a rub or two of very fine glass paper, and polish as at first. In working the pad, don't let it rest, else it will stick and remove all the polish that has been already rubbed in. It takes about three hours to polish a twelve foot trout rod, resting the hand occasionally. It is not necessary to do it all at once—it may be half polished, and finished in a day or so after; in fact, it is better to let the first two or three coats harden well. Polishing is best done in a warm room, or near a fire or stove. Finish off the polishing with a rub of naphtha instead of the French polish; this hardens the skin.

**Frog Fishing for Pike** is a common practice with the rustic angler. The frog is baited by passing the line with a baiting needle under the skin of the back, leaving the hook exposed between the hind legs; also by catching the skin of the back with the hook—this plan keeps the bait longer alive. Another method is to have a triangle of hooks fastened to the frog's body by a lashing of fine cord or thread. Sometimes the frog is skinned. All of these plans are cruel, and should not be encouraged.

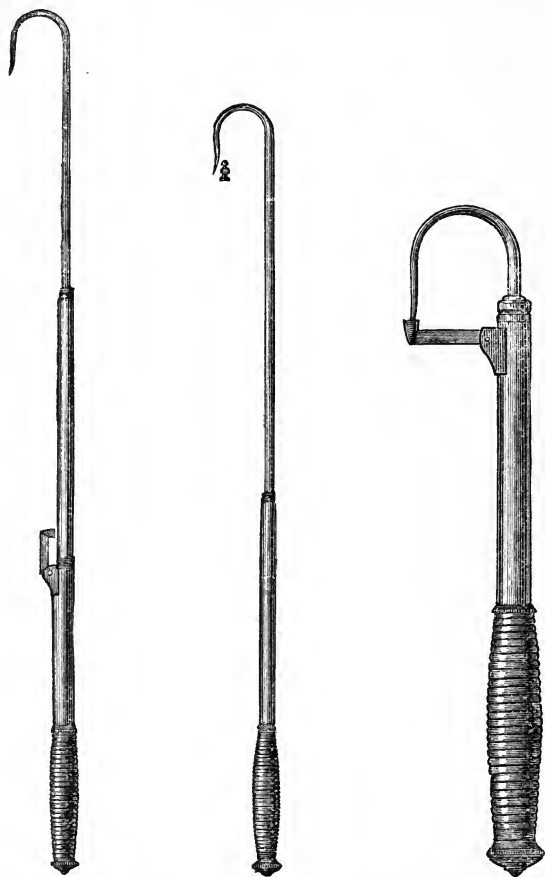


**Furs** of sorts are used to form the bodies of artificial flies, and may be obtained of a furrier. Those most useful are taken from the lug of a hare ; and the large reddish-coloured hare of the midland counties of England gives fur of the most desirable colour. The poll of the hare also affords a nice fur. Then the badger's fur, also that of the sable, martin, rabbit, and squirrel ; that taken from the belly of the hedgehog and the flank and belly of the water-rat is greatly used. Seal's fur is also in demand, and is, as a rule, dyed to colour required. All these should be picked up as chance offers, and laid by separately ; they will all come in handy for fly dressing.

**Gaff**, sometimes called a "clip" or "cleek," is the implement used to land salmon or other large fish when played and ready for the operation. It is a sharp steel hook, strong and well tempered ; sometimes slightly barbed, oftener plain. This is fixed to a strong ash handle—of different lengths—either by a screw joint or by being well lashed on with waxed twine. There are several varieties of these. Some fold up, others open and shut with a spring ; many have telescopic handles, but the simpler they are the better. The points of the gaff should be kept sharp, and to protect these when not in use they may be inserted in a wine cork. After use they should be wiped dry and oiled, to prevent rust forming on them and destroying the temper. (For illustrations of folding gaffs see following page.)

**Gentles** are flesh maggots, and may be procured as follows :—Hang up a liver or portion of one in some shady place, where the blue bottle or blow fly can have access to it. Make some deep gashes with a knife in the liver ; in these the eggs of the fly will be deposited, and in a few days they will hatch out. In a week the maggots will be

ready for scouring. This is done by allowing them to drop from the meat into a vessel containing some sand mixed



FOLDING GAFFS (SEE PRECEDING PAGE).

with bran. The gentles soon clean themselves in this, and, becoming tough, are ready to be used as bait for nearly all sorts of fresh water fish. It is essential to keep the scoured

gentles in a cool place to retard them from assuming the chrysalis form, which would render them useless for the angler's purpose. If the weather is warm, the vessel containing them may be buried in the earth; this excludes both air and heat. Gentles are not pleasant things to handle, and a nice scoured worm will do as well in most cases.

**Gillaroo** is the name given to a peculiar description of brown trout found in many of the lakes and a few of the rivers of Ireland. The name signifies "red boy." *Ruadh*, "red," denotes the very prominent red spots which are found on the fish; and *giolla*, "boy," is in accordance with usage in Ireland, which does not limit the term to age, sex, genus, or class, but employs it for every object of familiarity—hence the Celtic word *gillie*, also signifying a "boy." This explanation is necessary, as it has been erroneously described to mean "gizzard," which this fish is supposed to possess; this so-called gizzard is merely a large, thick, muscular stomach, which usually contains a quantity of small shell fish of three or four kinds. Sir Humphrey Davy considered the gillaroo to be a distinct breed, or a sort of link between char and trout. The gillaroo is highly esteemed both for its edible qualities and for the sport it affords. It is caught by the same means as ordinary trout and associates with them, and is only to be found in Ireland.

**Gimp** is composed of a thread or two of silk, flax, or hemp, covered over with an arming of fine brass or copper wire, which can also be had silvered. It is useful for making spinning traces, and attached as collars to strong hooks for the capture of pike, as their teeth are so numerous and sharp that nothing else will stand against their attacks. It is formed into traces by being fastened to

swivels, and these are looped to spoons, artificial minnows, or other spinning tackle, and used for pike, salmon, and the *salmo ferox*, or the great lake trout. The ends, freed from the wire arming, when forming ties or loops, should be lashed with well-waxed silk thread. Knots are objectionable. Gimp can be dyed a dark colour, which is held in great esteem by the best pike fishers. The recipe is as follows:—Cleanse the brass gimp thoroughly; then brush it over with the following solution, which should be boiling:—Distilled water, one hundred parts by weight; caustic soda, twelve parts; neutral chloride of platinum, one part. Then wash, dry and varnish. The colour given is something like oxydised silver, and is a desirable one.

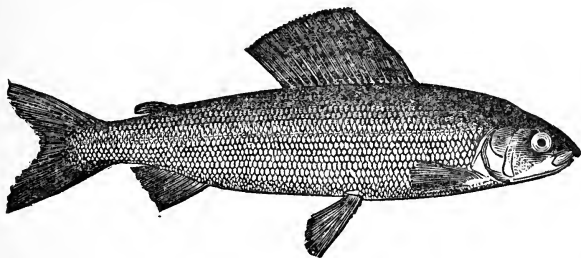
**Glisten** or **Glare** applies to the disagreeable, blinding brightness which is thrown over the face of the water by the sun shining in a cloudless sky. When the angler sees this, he generally makes up his mind that it is little use fishing, as the fish are very well able to see his movements, whilst he can see nothing. This appearance is often to be seen in the autumn evening with a declining sun and frost coming on. The only chance of fishing when this glare is on the water is with the dry fly, casting it lightly on to the rings made by rising fish.

**Glut** is the term which applies to a mass of flies alighting upon the water, and upon which the fish gorge themselves to repletion, so that they refuse to rise to an artificial fly. When this glut is on, there is little chance of the angler getting any sport. In some rivers the flies are so numerous on the water, that a solid row of them may be seen sweeping down the current before the wind. When a fish is caught during the glut, if its mouth is examined it

will be found crammed with the fly, and oozing out of the sides.

**Gorge** or **Gorge Hook** is made by having either one or two good-sized hooks fastened to a length of stout gut, light wire, or gimp. This is carried down through the body of the bait—either a dace, bleak, or gudgeon—and, drawing the hooks close against the sides of the mouth, the bare end of the gut or wire is caught through the tail, and may be lashed with a few turns of thread to prevent it slipping. It has a loop on it, to which the trace is attached, and may be used as spinning bait.

**Grayling, The** (*Thymallus vulgaris*), is a very handsome fish of the family of the *salmonidæ*, and of a genus distinguished from salmon trout, &c., by having a smaller mouth, much smaller teeth, and a greater size of dorsal fin. It seldom exceeds fifteen to sixteen inches in length, and is of elegant proportions. The head is small.



THE GRAYLING.

The colour of the back is a bluish grey, inclining to silver towards the belly. The spots are arranged across the dorsal fin. There are several black spots and dusky streaks on the back. This fish is found in many of the streams in the midland and southern counties of England, and in the Clyde in Scotland; but not in Ireland. It is very fond of

bright gravelly-bottomed streams, and will not thrive in muddy ones. It spawns in April and May, and comes into condition about the time that trout are out of season—October and November. It is greatly esteemed for the table, and is better used when fresh caught; its flesh has a flavour of thyme, hence its generic name.

**Grayling Fishing** begins just about the time trout and salmon fishing is over. These fish are caught principally by artificial fly, but they are fond of a worm or maggot; they are seldom caught with the minnow, but much fished for with an artificial grasshopper—a special lure for them—made by lightly leading a No. 7 or 8 Limerick hook, wrapping green worsted over it, and forming yellow rings on the body with silk or gold tinsel. The hook is baited with a few gentles, allowed to sink, and then drawn about with short jerks as in spinning. A small quill float is attached to the line to let the angler know when the grasshopper has touched the bottom. Strike firmly when the top of the rod bends; but be cautious, as the mouth of the grayling is not as tough as that of a trout. It is considered amongst high-class anglers that grayling should never be fished for with any lure but the artificial fly. The flies used for grayling are similar to trout flies; perhaps a shade brighter in appearance. Grayling seldom go over three pounds in weight. They are not so shy as trout, and therefore concealment of the person is not of such importance. They do not as a rule take a good hold of the fly hook, therefore the play should be gentle, giving them plenty of liberty; they often make a last violent effort to escape the landing net. Worm fishing is a very deadly method of taking grayling and greatly practised in the Yorkshire streams, the angler using

a drawn gut cast, with a fine wire round bend hook, on which is impaled a lively red worm. The line is shotted, and a small float used to prevent the worm touching the bottom. It is thrown up-stream. The disappearance of the float indicates when the worm is seized; a smart, quick strike generally fixes the hook, and the grayling is then led to the landing net.

**Green Drake Fishing** occurs generally in the month of May in several localities of the British Isles, and is found in great perfection in the lakes and rivers of some of the midland counties of Ireland. It is considered prime sport, and numbers of anglers from all parts of the kingdom flock to the favoured portions of the country to enjoy a week or so at this style of fishing. If the weather is fine, the season lasts about three weeks. The insects may be gathered off the hedgerows at the sides of the river by shaking or striking the bushes, when they fly out and alight on the grass a few yards away. They are lifted carefully by the wings and dropped into a box with a sliding perforated lid, or a horn made suitable to contain them, which allows of them being taken out singly when required to be baited on the hook. The hook should be about a No. 4 or 5 round bend, with a strong but slender shank, nicely armed or tied on a casting line. The hook enters under the thorax of the fly, and the barb is brought out at the little dark spot found between the wings at the shoulders. This baiting can be made more alluring by affixing another green drake by the tail on the barb, which flutters on the water, drawing the attention of the fish to its movements. The rod should be light, stiff, and long, to allow the line to carry out well with the wind, as the fly being tender it would flick off if cast in the ordinary way. The trout taken by the

green drake are generally good-sized ones, and make a wicked fight, as they are in first-class condition owing to the great amount of luscious food they come in for at this green drake season, for when this is full on, the river is covered with countless myriads of the big fat fly. Green drake fishing is carried on from boats in the lakes, and in some broad shallow streams where a boat would not float the fishing is done by cross lining. This is considered poaching, but as a license can be obtained it should hardly be dubbed by this ignominious title; besides, no other style of angling would be of use to these fish, nor could the angler put his fly over them in any other manner, especially as the good fish generally stop in deep places where no angler could wade to. This mode of fishing is done by two anglers joining their lines, and each one taking a separate bank of the river. Where the lines are joined a strong gut casting line depends for about six feet, with the hook at one end and a swivel in the middle, and another at the junction with the reel line. The hook is baited with the green drake, and a sharp look-out is kept for a good-feeding fish. Whichever side of the river this fish is on is called the fishing side, and the man on that side angles for the fish. The man on the opposite side is merely a machine for the time being, giving out line or reeling up as instructed by the man who is fishing. Sometimes it is one of them who fishes, and sometimes the other. The trout caught this way give good play, and as they are as often out of the water as in it, it requires careful watching to prevent them breaking the hold with their tail, by lowering the rod immediately the fish falls to the water after the spring. The green drake is kept bobbing or fluttering on the top of the water; not allowed to get wet or drowned, as



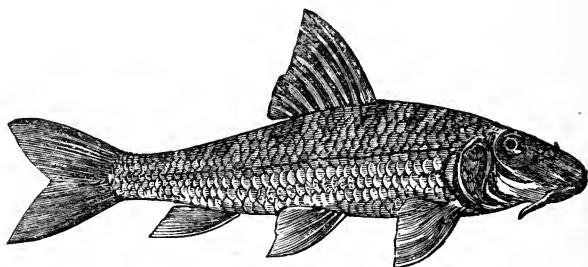
in this case it becomes useless and must be replaced by a living insect. The green drake is named the May fly in the south of England and in Ireland; this must not be confounded with the stone fly, which also bears the name of May fly in the north of England and Scotland.

**Greenheart**, a tree of the natural order of *Lauracæ*, is a native of Guiana and Cuba, and grows in the greatest perfection in the hills behind the alluvial lands. The wood is dense, extremely strong and hard, and so heavy as to sink in water. It takes a high polish, and is remarkable for its elasticity, likewise being almost exempt from the attacks of white ants and other wood-boring insects. It is the most valuable wood that the rod maker can obtain, and is superseding all others in the manufacture of fishing rods. Owing to its dense, oily nature, it takes a very long time to season, before it is fit to work for above purposes.

**Grilse** (in some districts "grawl," in others "peel") is the name given to the young salmon, which as a smolt having descended the river to the sea, returns for the first time to fresh water. It generally attains at this time about the weight of five or six pounds, and as it spawns now and does not increase in size when in fresh water, it is called grilse until it returns a second time from the sea, when it is called salmon, although it may not have yet attained its full size. It requires a little experience to distinguish a large grilse from a small salmon, as sometimes the former is the larger of the two. A grilse has smaller scales, which are very soft; also longer fins, and the tail more forked. Grilse are very lively, and give most exciting sport when hooked. Flies, same as for salmon, with smaller hooks.

**Ground Bait** is composed of various substances, and used nearly always when coarse fish are about to be

angled for, by throwing it into the swims or portions of water in a river or pond where it is desirous to congregate them. It may be composed of greaves or chandler's refuse; any greasy matter mixed up with bran, flour, or stale bread. These also may be used by themselves, in addition to cheese, rice, barley, malt, and grains. One of the most successful of the baits is that made up of broken worms, which are thrown loosely into the water above the swim, so that the current may carry them right down to the desired spot. If maggots or gentles are used, they are best mixed up with a little clay and bran into a ball. Cheese may be made up into pellets and thrown in. Greaves should be scalded and mixed after being broken up small, or they may be thrown in loosely. Bread, boiled rice, or barley may be mixed up with clay loosely, or they may be formed up into little balls without the clay. Ground baiting is generally done at least ten hours before the angler begins his fishing operations; and during the time he is fishing it is advisable to occasionally throw in some ground bait, as this keeps the fish on the move and incites them to feed.



THE GUDGEON.

**Gudgeon, The** (*Gobio*).—A genus of fishes of the *cyprinidæ* family, having a short dorsal fin. The scales are

large, and there are barbules at the angles of the mouth. The common gudgeon is found in many of the streams of the British Isles, especially those having gravelly bottoms. It seldom attains more than eight inches in length. The tail is forked, the eyes set high up in the head; colour, an olive-brown on the back, spotted with black, and the belly and sides white. They swim in shoals, and feed on worms, molluscs, and other larvæ that they rake up from the sand and gravel. They are very good eating, and one of the best baits that can be used for large trout or pike.

**Gudgeon Fishing** is the amusement of the young angler, and often the first lesson he learns in the art of angling. The tackle cannot be too fine. Bait a No. 1 hook with a portion of a small red worm, a maggot or gentle. Let this trip along the bottom of the gravelly stream where the gudgeons are, and very soon they will attack it. They bite boldly, and can be thrown out at the first indication of a nibble. It is usual to rake up the sand at the bottom of the stream to muddy the water, when the particles floating about will attract the fish in numbers, and sometimes as many as ten dozen can be caught in a very short time in the one spot.

**Gut, Silkworm,** is an indispensable portion of an angler's outfit, and great care should be taken to have it as perfect as possible. It should be transparent—not a dull white—and perfectly round. If it is not so it will glitter in the sun and be useless for the angler's purpose. Although every angler uses it, yet few really know anything of its origin. The name is rather misleading; it is not the gut of the worm, although it comes from its inside. It is formed from a viscid matter contained in two sacs lying side by

side. This substance is really "embryo silk," or what would have been spun into silk if the worm had been allowed to exist. The following description of the preparation of this article is furnished by Mr. Samuel Allcock, when on a visit to his gut manufactory at Murcia, in Spain, during the gut harvest in 1886:—"The worms are bred by the country people in their cottages, which usually consist of two rooms on the ground floor. In some of the villages near Murcia this is the sole occupation of the people, some of whom rear the worms, while others attend to the initial stages of gut making. On one side of the living room of these cottages the worm breeder ties together a number of bamboo cane rods, which grow plentifully there, forming a bed of twelve to fifteen feet long by four feet wide. The worms are spread over these, and are fed five times daily by covering them with mulberry leaves. Before feeding, all unhealthy or dead worms are picked out and removed. The worms live about fifty days, during which time they sleep three days at a time, in all twelve days. When they are ready to spin the cocoon, they creep upon branches of small trees cut out of the gardens, which are placed on the cane beds. They are taken off, put into vinegar, where they remain for six hours, and then put into water. Some of the country people make a special business of this, purchasing the worms from others and employing girls to draw out the gut, which is done by taking off the head of the worm and taking hold of the so-called entrails with the thumb and finger and pulling them out as long as they will come, then placing the gut in clear water. When a sufficient quantity—say two or three thousand—are drawn, the gut is tied in bunches and hung up to dry in yard or garden. Some worms produce one thread of gut, some two, and a few three. It is afterwards

sold by weight to the gut makers. The latter boil the gut with soap and water and a little soda, when the outer skin or film comes off easily. It is then washed, bleached, and hung up in rooms. Girls are then employed, who place each strand between their teeth, holding the other end between the finger and thumb, and rub it with wash-leather. It is then sorted according to strength, thickness, and length into the various qualities, re-rubbed, and tied in hanks of one hundred, and again into bundles of one thousand for sale." Gut is usually classified under the following heads :—"Corta," or common. "Regular," medium in thickness. This and the "Corta" are the cheapest; the other classes, whether stout or thin, being dearer in proportion to extremes of thickness or thinness and length over the "Regular." The next thinner is termed "Fina"; and the finest, "Refina." From the latter is made the best undrawn casting lines, the shorter lengths being used for fly-tying. In the stouter guts are first and second "Padron," and a light salmon gut, "Marana"; and last, but not least, the double thick "Marana." Great care is taken in picking out the best strands for fly casting lines, and not a little skill is requisite in making these up neatly with suitable knots. All the best casts are stretched and their weight-bearing qualities tested. The shorter lengths are used for the purpose of tying on hooks with fine strong silk. Gut can be purchased stained, but the better plan is for the angler to stain what threads he requires before he makes up his casts. How to do this, and also how to knot the links together, are treated under separate headings. Gut should be kept at its length, rolled up in wash-leather, and not in too warm or dry a place.

**Hackles** are very important articles in fly dressing, and represent the legs of the fly. They are the small, hard feathers that hang from the head of a game cock down his neck; also to be obtained from the necks of other barn-door fowl; good ones are occasionally to be obtained from near his tail, and from the tails of small birds such as the wren. The partridge and rails also furnish hackles. The most generally useful ones are those taken from a well-bred red game or duck-wing game cock. The better bred the bird is, the better the shape of the hackle. The fibres at the root of the quill should not be more than half an inch long, and taper evenly to a point with a perfectly straight edge, and those devoid of blue roots are considered the best. A good cock's hackle will be as firm as wire, so that when dressed on a fly it stands out regularly and stiff. The feathers should be obtained from a bird of not less than two years old; those taken from either a chicken or a bantam cock are useless, and the proper season to collect them is about Christmas, when the birds are in their best plumage. Hackles for dun flies are generally blue or grizzled; the former can be obtained from the neck of an Andalusian cock, and the latter from the grizzled cock. Dorking cocks afford cream-coloured feathers, but they are soft. The wren gives a nice brown-coloured, long-fibred hackle from his tail; these also should be obtained in the winter, when the feathers of this little bird assume a rich rusty colour, almost the hue of a withered fern. The topping of the lapwing furnishes a good black hackle if taken from an old bird; those got on a young bird are too soft and short in fibre. Many fly dressers use hen hackles, but they are soft, yet useful for some flies. Hackles can also be picked up from many of the

game birds, such as the grouse, pheasant, partridge, &c., choosing them small from over the back and under the wings. All hackles can be heightened in colour by dyeing, and those used in the manufacture of salmon flies undergo this process as a rule.

**Hair** adapted for fly dressing is principally got from the swine's belly, and is called pig's wool. It is a little coarse, and cannot well be used in the smaller or fine flies. It may be dyed any required colour. It stands the water remarkably well. Hair is obtained also from the badger; and that taken from the Angora sheep, called mohair, is very much employed to make the bodies of small trout flies—it is long and of a soft silky texture, dyes well, and retains its colour in water.

**Handle** of gaff or landing net is generally made from a stout, straight piece of ash, hickory, or from bamboo cane. The latter, being easily made into a hollow cylinder, is convenient for carrying a spare top or two for a fly rod. But the solid handle of stiff wood is the best, as it is useful to lean upon when the angler is wading, and to assist him



LANDING HANDLE—CLOSED.



LANDING HANDLE—OPEN.

when going over slippery stones, and for this purpose it should be shod with a small strong steel spike and crook. Many of these handles are telescopic, to make them handy for carrying. The handle of a landing net should be not less than five feet long, as often the fish has to be

landed over a fringe of weeds, or perhaps from a high, overhanging bank. The gaff handle should be about three feet long, as a greater length than this does away with the command the angler has over it when gaffing a fish. For boat work the handle may be shorter. All handles should be stained of a darkish colour and well varnished, and when not in use should either lie flat or be suspended by one end from a nail; resting them in a corner gives them an awkward bend. Many of these handles have an arrangement whereby they can be attached to the pannier, leaving both hands free.

**Hat.**—This portion of an angler's outfit should be made of some light material—broad in the brim to protect the eyes from the glare of the sun. It should be soft and well ventilated, as the head is apt to get heated in angling, especially in warm weather. A nice drab soft felt hat is about the best style. It may have a flannel band round it of the same colour, on which the spare casting lines and flies may be wound. It is objectionable, however, to keep casting lines, especially fine ones, exposed to the air and sun, as it tends to make them brittle. A hard hat is an abomination to the angler.

**Haunt** is the particular spot or portion of a river where a good fish, especially a trout, is known to frequent and to be seen feeding. The denizens of a haunt are not easily enticed, and a great deal of ingenuity and patience is required very often on the part of the angler before he can circumvent the wary fish.

**Hemp Lines.**—These are made both twisted and plaited, and used principally for sea fishing, eel fishing, and for pike reel lines.



**Hickory** (*Carya*) is the wood of a tree indigenous to North America, and imported to this country in large quantities, as it comes into use for many purposes. It is highly esteemed for making the butts and sometimes the second or middle joint of fly rods, as it is strong, tenacious, and has a considerable spring. It is much lighter than greenheart, and can be used with advantage in conjunction with this wood. It is liable to get a set if not very well seasoned. It stains well and takes a good polish. It will not stand much heat or moisture, and is liable to injury from worms. The second growth of the hickory tree is that used for rod making.

**Hitches** are half knots, and useful to the angler in many ways; although they hold firm, yet they are easily unloosed. There are several of them, the simplest of which is called the half hitch, and is mostly what is adopted in finishing off the body of a fly, or of fastening any portion of it with the tying silk to hold it firm while another portion of the process may be gone on with. It is made by taking a loose turn of the thread round the body, drawing the end of the thread through the open coil and pulling it down tight; as the thread is well waxed, it bites hard, and is wonderfully firm. This hitch shows no knot or protuberance, which would be unsightly in a small fly. The double hitch is made by leaving two open coils and drawing the end of thread through; this gives a firmer hitch than the single one. The double half hitch is made by repeating the single half hitch, and is usually the fastening made on the head or finish of a trout fly; but some fly dressers use the whip hitch, especially for tying off the heads of eyed hooks. This is done by throwing a long loop of the thread out and confining both ends of thread by the finger

and thumb of left hand. Now take one arm of the loop, pass it over the end of the hook, and with it lap in the other arm of the loop at each turn until three or four turns or whips have been given, when the loose end of thread may be drawn tight and confined by the whips which have passed over it, forming a very firm finishing hitch. This hitch can only be made on an object where the end is sufficiently close to allow the loop to pass round, hence suitable for eyed hooks. This whip can be readily understood by referring to the illustration given of it in "Halford's Dry Fly Fishing." There are the hitches by which the casting line is fastened to the reel line; and there are several of them. One is made by passing the knotted end of main line down through the loop on casting line, holding it by thumb of left hand; then pass the main line across the loop, holding it with



JAM HITCH.

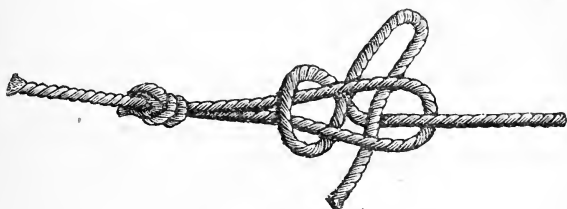
thumb of right hand, and bring the knotted end up between the loop and main line, when it can be drawn tight,



ANOTHER JAM HITCH.

manipulating the knot on end of reel line till it is close to the head of the loop. When this hitch is required to be

unloosed, slide it back on the loop and the end will come free. This is a neat hitch, and quite safe. Another jam hitch is shown by figure; it is a little bulky, but a good one. Another hitch used for same purpose as last is made by catching the main line within two inches of the end by the finger and thumb of left hand, underneath the knot of the loop of the casting line; pass the main line across the loop, fetch the loose end up over it, and double it into a loop, which is now passed into the head of casting line loop and all drawn up tight, thus leaving the knotted end of main line free to be pulled when the lines are to be unfastened. This is the tiller hitch; it is clumsy, but it can be loosed in the



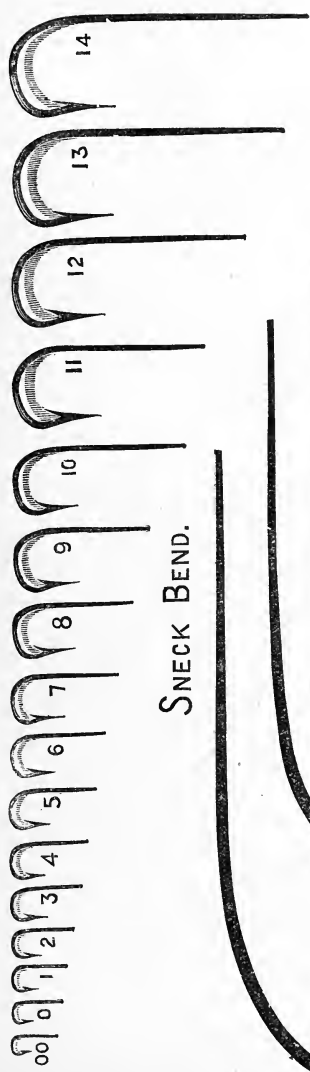
TILLER HITCH.

dark by a pull on the loose end of main line. The hitch given to lapped joints of fishing rods when put up, is by passing the last five or six coils of the lapping twine round with the forefinger intervening; then withdraw the finger and pass the loose end up through the coils and draw tight. This is a half hitch on a large scale. The fastening of the line rings on the rod is made in a similar way, except that a doubled and separate piece of loose thread is used instead of the finger, and the loose end is put through the loop, which is then drawn back through the lapping and cut off close. This makes an invisible finish, and is perfectly

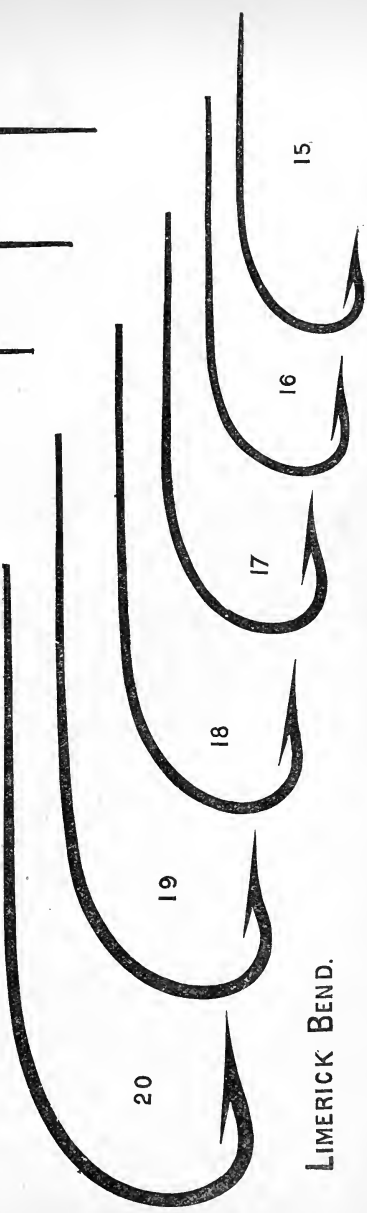
secure. There are many more hitches, but these are sufficient for the angler's purpose.

**Hollow Butt** is now seldom used in a fishing rod ; still, if the angler is having what is called a general rod, where a nice style of casting is not aimed at, he will find a hollow butt useful to carry a few tops of different lengths so as to make his rod suitable for the style of fishing engaged in. The butt to be hollow is necessarily thick, and not much tapered, to permit a suitable cavity to be bored up its entire length. It is clumsy in the hand and devoid of spring, not at all suitable for fly casting.

**Hooks.**—These important necessities of an angler's outfit are numerous and varied. There are four distinct recognized bends made by all hook manufacturers, namely, sneck, round, Kirby, and Limerick ; and springing from these four are many modifications, such as Sproat, McKenzie, and others. No less than one hundred and eighty different sorts, each having twenty to thirty sizes, are in use, such as quadruple, treble, double, gorge, lip, and snap hooks, eyed hooks of various styles, and many others too numerous to give details of. Redditch is the largest hook producing district, and several well-known makers have their factories in that town, viz., Messrs. Allcock & Co., Messrs. W. Bartlett & Sons, and one or two others. The Redditch makers number their hooks as follows :—Round, sneck, or Kirby commence at No. 17 as the smallest and run up to 10/0 as the largest. The Limerick bends commence at No. 18, the smallest, and run up to 10/0. These latter run larger than the other three makes ; for instance, the No. 18 Limerick is about a No. 16 of the others. The Kendal makers run their sizes the reverse of the Redditch makers, hence there is a good



SNECK BEND.



LIMERICK BEND.

ADLINGTON'S HOOKS—KENDAL SCALE.

deal of confusion. Their smallest hooks commence No. 00 and run up to No. 20, the largest. It has often been discussed amongst the angling world the desirability of having all makes of hooks uniform in number, but as yet no change has been made, and no doubt it would make confusion more confounded to alter, seeing the different makers have their trade catalogues scattered all over the world. The Redditch makers number their hooks after the wire they are made from—No. 16 hook from No. 16 wire—so that the number of the wires would have to be altered as well, if a uniform plan of numbering was to be adopted. However, most catalogues give illustrations of the numbers and sizes of hooks, so that the angler can have no difficulty in procuring the size and shape he wants by consulting them. The manufacture of fish hooks is a very particular business, giving employment to a large number of skilled workpeople, and a description of the various operations through which a hook passes, from the plain straight length of wire until it is papered up for sale, may prove interesting to many anglers. First the wires are cut by shears into the requisite lengths necessary for the particular number of hook that the operator intends to make. The barb or beard is cut by means of a hollow-ground knife, which, being deftly turned by the hand of the workman, opens the fluke to the required gauge, care being taken not to cut too deep lest the barb be weakened, which would give way when used. The third operation consists of filing the points up to the shape required, forming either hollow, Kirby, or Dublin points. All the best hooks are filed by hand, and are given either three or four knife-like cutting edges, which causes the hook to have a particularly good penetrating power to enter the fish's jaw,

more so than the needle-pointed hook, which is not so costly. The fourth process is turning the hook to give it the particular bend required. Fifth, the shank is shaped by a hammer, or by the aid of an ingenious machine, to be either ringed, flatted or sharp pointed; the latter is the usual shape for small trout or salmon flies to be tied to gut. The hook up to the next and sixth process has been in a soft condition, and must now be hardened. This is one of the most particular parts of the manufacture, as the hook must be carefully watched during this process lest it become too hard or not hard enough. The wires are heated in a furnace until they attain a certain appearance, which the skilled workman notices with accuracy. They are withdrawn and plunged into oil; this converts the hitherto soft hook into a highly brittle condition. The heat required for each style and size of hook is varied. The next and seventh process is equally as particular as the last; that is the tempering, and the angler knows—to his cost sometimes—the difference between a hook perfectly tempered and one not. If the hook is not right, it will either draw out when playing a fish until it is as straight as it was when first cut with the shears, or will break off above the barb, and in both cases the fish is lost. The tempering is done by withdrawing the brittle hooks from the oil, heating them in a pan over a charcoal fire, having them mixed up with heated emery sand, and this mixture of hooks and sand kept in constant motion. Every now and then a hook is picked out, and the temper gauged according to the experienced knowledge of the skilled operative. Then the eighth process is scouring, by placing the hooks in barrels, with water, and keeping these barrels in motion for several days by steam power until all scale which may have been on

them is removed. The ninth process is polishing, and may be performed in two ways. The hooks are placed in a bag containing fine emery powder, and shaken until they become bright. The other way is to place them in barrels having an inclination of forty-five degrees from the perpendicular, and revolving more or less round on their own basis, it having been found that this inclination of the barrels is more effective in gaining the desired end in view than if they were either upright or horizontal. The tenth process is colouring, either by japanning, blueing, or browning; and the last, and eleventh, is the counting, papering, and packing in hundreds and thousands. The girls and boys who do the counting take up the hooks with a knife, and, balancing them on its edge, turn over their hundreds with incredible speed. The packages are labelled, well dried to prevent rust, and sent off to the various markets. It is essential that the angler should see that his hooks are A1, for on the perfect condition of this little mite of tempered wire depends the success of the sport. There is a great improvement in the appearance of the hooks of the present day from that of our forefathers. There used to be as much metal in one of them as there now is in three, and lightness with strength is the thing required. The numbers noted all through the "Lexicon" refer to the Kendal scale.

**Horse Hair.**—(*Vide* "Casting Line.")

**Imperceptible Spinner.**—This is made in several sizes for trout, sea trout, salmon, and pike. It is composed of a piece of flat soft copper, leaded at the head. The blade is put down the mouth of the dead bait, and the hook attached to the sides. The bait can be bent to any degree, causing it to spin admirably.





THE IMPERCEPTIBLE SPINNER.

**Indiarubber Bags** are used instead of baskets for carrying the fish when caught. They are not expensive, and will last many seasons, care being taken, as with the stockings, to turn them inside out, wash the fish scales, &c., off them, and dry in the air. The best sort is found to be white indiarubber inside and Angola or twill outside. They clean easily. (See "Bags.")

**Indiarubber Long Boots** are used by many anglers for fishing and wading purposes. They are perfectly waterproof, and can be waded in all day without any damp penetrating. They are exhausting to wear, as they sweat the legs and make the feet soft and tender. They should only be worn at the river side, as they are too heavy to wear going or returning from fishing if the angler has any distance to walk. It is better to have the soles made of leather, studded with nails, as indiarubber ones want

firmness and will not give the angler a good command over his footing when wading over slippery stones. Indiarubber boots should always be wiped out dry after use, and not



LONG FISHING BOOT.

permitted to go near a fire. A great improvement in these boots has recently been made by the introduction of felt soles and linings, which materially assist in absorbing the perspiration.



INDIARUBBER SHOE.

### **Indiarubber Shoes.—**

These are intended to be worn over the fishing stockings or trousers. They never require oiling, and are light and comfortable.

**Jack**, a name very often given to the pike. It is usually understood that it applies more to the smaller-sized of these fish, say up to five or six pounds; afterwards, when the fish attains a greater weight, it is usually called pike. This term is quite unused in Ireland.

**Jag or Jagging.**—To jag a fish is to touch him with the hook when striking, without being able to retain him; this very often occurs owing to striking too late, and the fish, feeling that he has made a mistake, instantly blows the fly or lure from his mouth and escapes. Brown trout, as a rule, fight shy of a fly after being jagged; but white trout and salmon will come again almost instantly, and are sometimes hooked the second time.

**Japanese Rods.**—These are imported from Japan. They are principally in demand by the juvenile angler, and hardly worthy of an extended notice.

**Joints** connect the several pieces of the rod to make it into a full length for use. With one exception they are made of brass, and may be either bronzed, painted, gilt, or silvered; the bronzed colour is the best, and keeps good a very long time. There have been many styles brought out from time to time; like everything else, some good, but more bad. The screw joint was about the first made, and had its day. It has a male screw on one piece and a female screw on the other, encased by ferrules; the screw soon loosens by the action of the rod, wears the thread, and the whole affair wants firmness. Then comes the tongued or taper joint, which is the most universally used now. The ferrule and counter fit each other accurately, and on the counter part of the rod is shaped a tongue of the wood slightly tapered, which fits into a socket on the ferrule portion of the rod, so that when these two joints are pushed home they are really double joints—first the counter and ferrule, then the tongue and socket. In all good rods this tongue is covered with brass, and then the joint is called double brazed (*q.v.*). This is a very secure joint, and may be made more so by having small bent

"catches" or wires attached to each joint about two inches off each other and opposite; these "catches" are lashed together by a few turns of a stout thread, and prevent any possibility of the joints withdrawing when casting. This joint has been made with a fish screw at the end of the tongue, which by a turn fits into a receptacle made for it; it is not much of an improvement, and adds somewhat to the weight. Another taper or tongued joint, called the lock joint, is now coming into use; it has a bayonet catch, which by a turn grips fast and does away with the "catches" and lashing by thread; it is a sensible joint. There is a flexible joint, which is also made of brass, and the ferrule is cut spirally, so that, when in its place, the maker claims for it that it allows the portion of the rod under the brass to spring equally with the rest of it. There is a small socket in centre of wood, and a pin to correspond on the counter side; this serves as the tongue. It is also fastened by a gib, which grips on a small rim brazed on the end of the ferrule and does away with lashing. There are several other ferrule joints, but those mentioned are the principal ones. Lastly comes the oldest of all, which still has its ardent admirers, namely, the spliced waxed joint. Each piece of the rod is made with a taper splice seven or eight inches long, accurately fitted to each other, and lapped together by a well-waxed cord or silk braid in open coils, which allows the rod to play almost as well as if it was thorough from butt to top. It is a little troublesome to make, and there is a danger of the fine splices getting broken or damaged. A spliced joint is very often used as a top joint of a salmon rod, as it stands a good bend and seldom breaks. All the brass joints can be had from the tackle makers, and are in standard sizes, generally

measured by sixteenths of an inch—from four-sixteenths up to twelve-sixteenths.

**Kelt** is the name given to a salmon which has spawned, and still remains in the fresh water. It is considered to be a foul fish, and anglers, when they get hold of one in the course of their fishing, should return it to the water on the chance of it going down to the sea to renovate its shattered constitution. A kelt remaining over a season in a river does a good deal of harm by devouring the young fry, and many anglers would think that they were doing good service by capturing and killing them; but the law as it now stands prevents them doing so.

**Kipper, The,** is the name employed to describe the male salmon, during the spawning season, when he is about to shed his vivifying milt, "kip" being the term for the cartilaginous hook of the under jaw, becoming very prominent at this season, and which formerly he was supposed to use in furrowing up the spawning bed. This idea is now exploded, as it has been found by careful observation, that the snout is not used at all, but that the tail alone is employed for this purpose. The term "kippered" is applied to dried and smoked fish.

**Knives.**—One of the most generally useful of these articles is the "Multum in Parvo," containing tweezers, pricker, corkscrew, &c., as well as two good blades. The handle is better electro-plated; this saves it from rusting. It should have a ring at one end, by which it can be attached to a cord or chain, fastened to a button, as loose knives very often get left on a river's bank. Another useful knife is the sailor's spring one, which can be carried by a leather belt worn round the waist; this comes in handy to assist at lunch time, to cut down small branches

or brambles that may be in the way, and to make a splice on a broken rod. Knives are also made with disgorger blades set in, and others with scissors to fold up.

**Knots.**—There are several which the angler will find useful, and which he ought to learn to make, so that at any time he can do them neatly and quickly. For joining or making up a gut or hair casting line, there are four knots: The first one is the single water knot, and this is made by



SINGLE WATER KNOT.

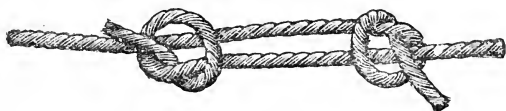
laying the two ends together and past each other about three inches; give these a turn over the right fore-finger and form a loop; slip this off, and pass the two ends to the left through the loop and draw tight, cutting off the short end close up to the knot, or leaving about three-eighths of it to lap with silk if it is thought right. This is a quick knot,



DOUBLE WATER KNOT.

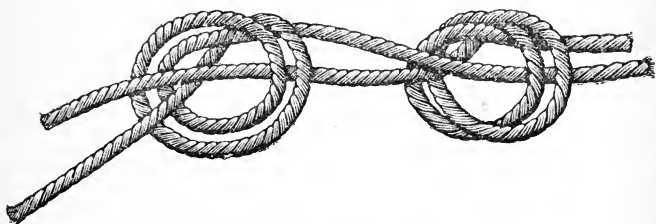
and generally used to mend a broken cast when on the bank of a river. It is pretty secure, and not apt to draw. By passing the ends twice through the loop, the double water knot is formed. It is clumsy, but very strong. The single fisherman's knot is formed by laying two strands of the gut together about four inches past each other; take

one end, pass it over the other link of gut and form a loop, then pass the opposite end through the loop, and, humouring this up as close as possible to the bare end to be safe without losing or wasting any of the gut, draw tight ;



SINGLE FISHERMAN'S KNOT.

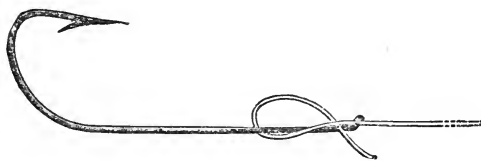
reverse the hands and do the same with other end, when by pulling on the longer lengths of gut the two knots will draw close to each other and bed themselves neatly together ; the bare ends may now be snipped off or three-eighths of an inch of them left to be lashed with waxed silk ; this is not otherwise a secure knot, being apt to draw. A better knot is the double fisherman's, which is both neat and secure.



DOUBLE FISHERMAN'S KNOT.

It is the same style as the single, only in place of putting the ends once round the links of gut they are put twice, forming two loops ; the first loop is gripped by the finger and thumb of left hand, the next passed round and caught same way ; the bare end of gut is now passed underneath and pointed upwards, and the knot tightened ; the gut is now reversed, and the same process gone over at other end ; when these are finished, both knots are pulled together and

jammed neatly, fitting into each other so that they represent a series of small rings. There is another way of making this knot, but it could not be described clearly; it is called the smooth knot. Before closing up these knots, if dropper flies are wanted to be attached they can be inserted in their places now between the knots. There is a jam knot for attaching eyed hooks to the casting line. Push one end of gut through the eye towards the bend of the hook; bring it back and make with it a slip knot round the line; don't



JAM KNOT.

draw this slip knot tight, leave it so open that it will pass over the eye of the hook, which is done by pulling on the main line; it then tightens, and the knot is complete. A double slip knot for salmon fly attaching is formed by making a long loop on the well-soaked link of gut; pass this through the eye of the fly hook towards the bend, drawing all the loop through until its knot presses up against the eye; now spread the loop upwards and over the fly, and keep the whole of the loop well to the front so as to clear hackles, wings, &c.; take the knot of the loop, which should be a slip knot, between the nails of the forefinger and thumb of left hand, holding it tightly in its position against and in the eye of the hook, whilst with the right hand, and, humouring the gut in the process, the main line is gradually drawn tight, thus taking in the "slack" of the loop; cut off the bare end of gut, and all is complete. Before making any knots on gut, be sure and have the



latter well softened or the knot will crack and become unsafe ; most essential.

**Ladders** are a series of artificial steps inserted in weirs, walls, or other obstructions which are placed across a salmon river. They are formed by dividing off a portion of this obstruction and intersecting it with transverse steps, either wood or stone, about two-thirds of its width, so as to cause the runs of water to become miniature falls. Into these partitions or steps the salmon find their way, where they can rest, and readily work their upward passage to the higher level of water.

**Lair** is the favourite spot of some monster trout, usually the sole inhabitant, and who succeeds in capturing all the insect food which may cross his kingdom, and is generally able to defy all the allurements which the angler may put before him. In nearly all streams and rivers these lairs are to be found, and can be pointed out by a native. They are always well situated so as to be a receptacle for food for the fish, such as the bend of a river or an eddying back stream, under sunken roots, &c.

**Lake Fishing** is mostly practised from a boat, with a man at the oars well up to his work. A good broad boat is almost essential for comfort, and although it may tax the powers of the rower a little more than a narrow one, yet the advantages it affords as well as the safety, will fully compensate for this drawback. Two anglers can fish from a boat perfectly well, one at the bow and the other at the stern ; they should work to one another's hand as much as possible, and watch their casting so as not to get the lines entangled, which occasionally occurs, creating some trouble to unloose, besides the loss of temper. In fishing a lake fringed with weeds or flags, the best lie for the boat is about

twenty feet off these, and it should be quietly rowed with the wind, when the angler, casting in to the edge of the weeds, is almost sure to make a good basket if there are trout in quantity in the water. Trout don't seem to heed a boat at all, and frequently may be seen rising within a foot of it. The pleasantest style of lake fishing is with the single-handed rod, which gives a good command of the fish when being brought up to the net, and is not nearly so tiresome as working with the doubled-handed rod. When trolling for the great lake trout, the rod must be almost as powerful as a salmon rod, and should be at least sixteen feet long. When spinning in a lake for trout, salmon, or pike, there are generally two and sometimes three rods extended over the stern, having the lines out at different distances from the boat, which is generally rowed in a zig-zag way across the water; this helps to spread the flies or the minnows or spoons attached to the end of the lines, and covers more water. When a fish takes the bait of one of the rods the lines of the other rods are immediately reeled up to prevent a foul occurring, and if the fish is hooked not far from the shore it is best to land at once and kill it from there. If trout are rising freely, good sport may be had by daping with the natural fly from the boat; hooking a fish is almost a certainty if the fly is nicely floated over where it is showing. Morning or evening is the best time for lake fishing, as the fish seem to rest in the middle of the day, especially if it is warm and calm weather. On some lakes, especially Irish ones, fishing is only to be had at the spring of the year, and that is when the green drake or Irish May fly is on the water. The sport then is exceptionally good, both on account of the numbers captured, and of the large size. During the rest of the year

the fish as a rule feed under the water, only occasionally coming to the top to suck in a fly. These lakes abound with shell fish and molluscs of minute size, which serve as food for the trout. In many of the Scotch Highland lochs good sport is obtained all the year round. The fish are not large, but they are plentiful, and easily caught. When fly fishing in a lake, do not draw the flies against the wind; but, on the contrary, let the wind, in lieu of a stream, take the flies before it. Sinking the fly in a bad-rising lake is sometimes useful, and by putting a small shot at the head of the fly it will go down easily, and should then be lifted with short jerks. When a good curl is on the water, there is a fair chance of hooking a large trout with a fly. The fly in this case may be a bright one, and tied on a No. 4 or 5 hook. A Berthon boat, being easily transported overland, gives many a good day on a mountain lake which without this means of locomotion would be a *terra incognita* to many an angler. It takes one to manage the boat and land the fish, while the other lies on his side and angles. Changing places in these boats is a ticklish job, and requires some care to prevent an upset.

**Lake Trout Flies** are from two to four sizes larger than the ordinary river trout flies, and are generally bright coloured. The bodies are composed of red, orange, yellow, blue, brown, black, green, mauve, and crimson wools, mohair, or seal's fur, and generally tinselled. Wings: Grouse, woodcock, teal, mallard, white tip, pheasant, blue, &c. Legs: Black, blue, red, and Coch-y-bondu cock's hackles. Tails: Golden pheasant topping. The condition of the water and the amount of wind prevailing regulate to a great extent the colour of the fly. As a rule trout, if they are in a taking humour in a lake, are not very particular as to the

flies ; but to cater accurately for them is the better plan. Not too strong gut and neat flies should be the rule. The following will be found an excellent range of lake flies :—



LAKE TROUT FLIES.

Teal wings ; bodies red, yellow, green, and black ; ribbed silver tinsel. Bloo wings ; bodies red, yellow, green, and black ; ribbed with silver tinsel. Woodcock wings ; bodies red, yellow, and green ; ribbed with silver tinsel. Mallard wing, body claret, ribbed with silver. White tip wings ; bodies red, yellow, green, and black ; ribbed silver tinsel. Dark grouse wing, body claret, ribbed silver tinsel. Woodcock wing, hare lug body, ribbed silver tinsel. The Zulu, which is made like a palmer, black hackle, black body, ribbed silver tinsel, with red wool tag for tail. Pheasant wing, green body, gold tinsel, and grey hackle for legs. There are many other good patterns, such as the professor, heather moth, green mantle, soldier palmer, and Francis fly ; in fact, lake flies are legion.

**Lancewood**, occasionally employed by some rod makers, but not so much in demand now as greenheart. It is strong and elastic, generally obtained from the trunk of the tree, which is rarely more than nine inches in diameter, and grows straight. It is imported from the West Indies, but chiefly from Jamaica

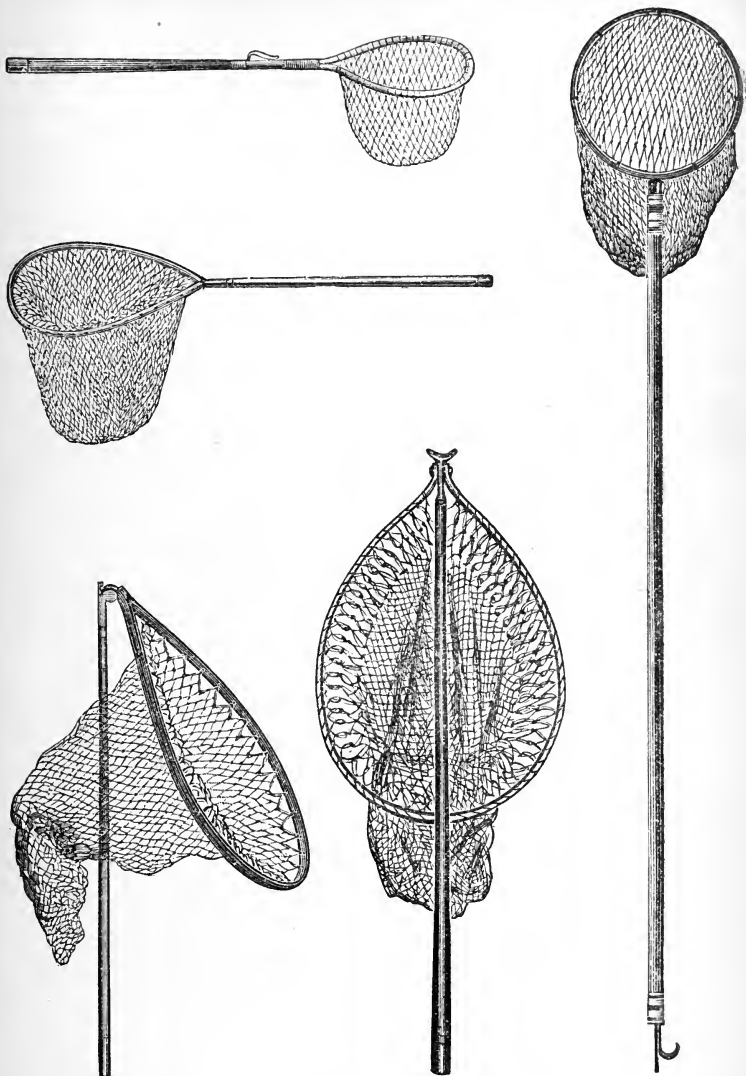
**Landing Fish**.—This seems a very simple job, yet there is some knack required to do it in a proper manner,

and many a fish has been lost by the bungling of the man who was working either the landing net or gaff. Whether the angler lands his own fish or not, there is a certain rule to be observed. If an assistant is landing, he should do exactly as he is told by the angler, and if he fails to bring the fish to land, why, the fault cannot be laid to his charge provided he has carried out the directions of the man who holds the rod and is playing the fish. If the fish is to be landed by a net, the time to put it in the water is denoted by the play of the fish, whether trout or salmon, and that is, when it rolls on its side or sails in quietly with its mouth above water. The net should be sunk well under the surface previous to the fish coming within reach, and be held there quite steady with the side of the hoop of the net furthest away from the fish in a slightly raised position, so that when the fish is sailed in over the lower side of the net the upper side serves as a stop, when all is lifted immediately with a steady motion, upward and towards the lander. *Never move the net to meet the fish*; doing so is apt to frighten it, as, when seemingly unable to make further exertion, it suddenly darts off with renewed energy, very often over the net, which gets foul of the casting line, and a smash occurs. If the fish refuses to enter the net and passes either over or by it, do not shove at it; allow it to go by quietly, to be again sailed in, when it may be safely landed. The net handle should be long enough to permit the angler to extend the net out clear of the edge and in good water. In landing a fish by a gaff (of course it is a big one, and an assistant is usually at hand to do this job for the angler, although he can do it himself quite well if he has had any practice), it should be stretched out behind the line which is holding the fish, and brought home into the

shoulder, or as near the gills as possible, with a steady, even drag; and when once the point is in, the handle should be raised to a perpendicular position, so that the fish hangs on the gaff. Don't strike at the fish as if you wanted to hit it a blow. Keep a look-out for the casting line, for if it is struck by the gaff, good-bye to the fish. Some gaffers use the implement by holding it underneath the body, and drawing it in this position; this is a bad style, as the body of the fish is apt to hit the shank of the gaff and rebound off. It takes a little practice before the landing of a fish, if a large one, can be done satisfactorily—one of the objects being to mutilate the fish as little as possible. Above all, keep cool and don't get nervous.

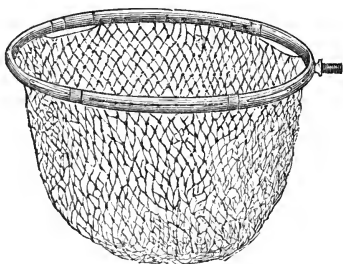
**Landing Handles.**—(See "Handle.")

**Landing Net** is used to land the fish after it has been hooked and played. An angler should invariably have one with him whenever he goes to fish, except when he is salmon fishing and prefers to use a gaff (*q v.*). There are several varieties of nets, some made from linen cord, others from cotton, and some from silk. The last is expensive, and won't stand the hard usage that nets sometimes get. Linen cord makes a strong net, but it is hard in texture, and does not hang so nicely on the hoop as a cotton one, nor does it hold the knots so well. Those made from evenly-twisted cotton leasing are all that can be desired. The best shape to have the net is somewhat like a sack, pretty broad at the bottom, and not tapered like an onion bag; permitting the fish, if a large one, to get well down in the bottom, so there is no danger of it throwing itself out in its dying struggles. Some anglers prefer a long, deep net. The objection to this shape is that when a fish is netted it draws the whole set of flies



LANDING NETS.

among the meshes, and the hooks often get fixed, which consumes valuable time before the cast is again free. The mesh for a trout net should be about half an inch, and the width at top, to suit hoop, twelve or thirteen inches in diameter. This will take about seventy-six meshes, to correspond with seventy-six holes bored through the hoop; and the depth of net should be at least twelve inches. A salmon net should be three-quarter inch mesh, and from twenty inches to two feet wide at top; the wider it is the better. All nets should be what is called "barked," that is, steeped in a hot



LANDING NET.

solution of catechu or cutch for a few hours. This serves to tan the cord and render it waterproof to a certain extent, also prevents it suffering from wet and weather, and gives it a good brown colour, which is not so liable to be seen by the fish when it is being used. They can also be oiled or varnished, but in this case the nets are stiff and unyielding. The nets may be fastened on ash hoops, rigid, and made to screw into the landing handle; or they may be fastened to either steel collapsible or galvanised iron folding hoops, which are handy for carrying; or, better still, on whalebone hoops, which are very complete both for handiness and strength, but are a little expensive. Iron hoops are not satisfactory, as they rust and eat through the net, and



brass hoops are weighty. There is a good class of net made from black cable cord; this material is hard in texture, and not so liable to get caught by the hooks as the soft unprepared cotton or linen nets.

**Landing Rings.**—(See "Landing Net.")

**Laws, Fishery.**—There are a few which bear upon rod fishing. In England, Scotland, and Wales no license is required by the angler for using rod and line. In Ireland a license must be obtained to angle with rod and line for salmon, grilse, or peel, and for white trout. These cost twenty shillings each, and can be obtained from most tackle makers. They are not transferable, but if taken out in one district can be used without let or hindrance in any other. These licenses must be produced on demand to any commissioner, conservator, inspector, officers or men of the navy, coastguards, constabulary, or water bailiffs, under a penalty of not less than double or more than treble the amount of license duty. Also, cross lines in rivers can only be used by the owner or owners of a several fishery, or any person authorised by him or them in writing, and is liable to be charged license duty. Prohibited modes of taking fish is similar in the three countries:—First: Not with dynamite, snatch tackle, jack wire, or snare light, spear, gaff, or strokehall, nor with salmon roe, nor place lime or other poisonous or noxious material, substance, or liquid which would destroy the fish. A public fishery exists wherever the public have the right of fishing. As a rule, all ancient navigable rivers in which the tide ebbs and flows are public, provided the right of fishing has not been given to an individual or individuals by ancient statute. If the river is made navigable by Act of Parliament, the public cannot fish in it above the ebb and flow of the tide.

The public have no right to fish from a bridge, road, or towing path; nor even if they have a right to fish in a river, they have not the right to go on or use the banks for fishing without the owner's permission, and he can withdraw that at any time. An angler has no right to fish from or on the Queen's share or gap. In streams not navigable the general rule is that each riparian owner—*i.e.*, the owner of the lands on the banks of the stream—has a right to fish up to the middle line of the stream; if he owns both sides, then he has exclusive right to the whole fishing of the stream so far as his lands extend. The principal law that the angler has to observe is that of trespass. He has no right anywhere to go on lands to fish a stream without permission from the owners of the lands. Many streams, by usage, are free to all anglers, and no hindrance is offered to using the banks. It is always well for the angler to ascertain if this is the case or not before attempting to fish a stream. There are special statutes affecting many of the noted rivers, such as the Solway, Tweed, Thames, &c., &c., but they do not interfere with the general law. The weekly close season (*q.v.*) is between six of the clock on Saturday morning and six of the clock on the Monday morning following. The annual close season (*q.v.*) for angling with single rod and line, and this for salmon and trout, was fixed to be uniform over Ireland, to be from the first day of November to the first day of February, in each fishery, and should not comprise fewer than ninety days. The season for nets was originally uniform, but power was given to alter, and it varies in different districts; but it must comprise not fewer than one hundred and sixty-eight days. The close season for trout is the same as for salmon. A free or Queen's gap must exist in all

fishery weirs placed across a salmon river, which shall be one-tenth of the width of the stream, and at no time less than three feet wide. There is an exception to this, in case of any fishery weir held by charter in a river where the breadth does not exceed forty feet, and in such the weekly close season shall be extended twenty-four hours. No person can obstruct this free pass by any means, nor can it be fished from with rod and line or any other engine.

**Leads** constitute all descriptions of sinkers used on various tackles and traces, such as jack leads, ledger leads, paternoster leads, drilled and split shot, &c.

**Leap** is that portion of a salmon river where an obstruction occurs, either naturally or artificially, and as there often is a space of five to six feet over which the salmon have to jump, it is usually called "the leap."

**Ledger Line** or **Tackle** is principally used for barbel fishing, and may be described as follows:—A lead bullet is drilled through the centre; through this a strong gut line is passed, to the end of which the hook is attached. About twenty inches above the hook a shot or small lead is fastened to prevent the bullet getting any closer to the hook. The hook is baited with a worm or gentles and thrown into the water where the fish have been coaxed by ground baiting to assemble. The bullet rests on the bottom, and the gut lies along invisible; the line is kept taut, but without lifting the bullet. The moment a fish bites, the angler will have notice, when he may strike, or he may allow the jigging motion of the line to go on for a little before he strikes, as the barbel are apt to nibble without wholly taking the bait. The angler, when he does strike, must do it pretty heavily, as he has the bullet to lift as

well. A short, stout rod and a line of forty yards may be used for ledgering.

**Leggings** are very useful to protect the legs of the angler from tears and scratches when walking through briars, furze, &c., which very often fringe the banks of mountain streams. In Scotland, where adders occasionally lurk about the banks of rivers, these leggings are essential to prevent injury from their bites. The best material is tanned canvas, as it is porous and not so apt to sweat the legs as those made of leather. It is also very strong, and will not tear easily. They fit nicely over knicker stockings.

**Line Drier.**—This is a most useful article, made so as to screw on a table; it is a skeleton drum of wood, with a handle, and used for winding off a wet line from the rod reel, that it may get thoroughly dried before putting away. (See "Lines.")

**Lines.**—By these are meant the main lines which are wound upon the reel attached to butt of fishing rod, and carried through the rings and fastened to the casting line. They form an important part of the fishing gear, and some judgment is required in choosing them, so that they may suit the rod to which they are attached, especially in weight, as a heavy rod with a light line, and *vice versa*, is a mistake. Lines may be composed of various materials, viz., of horse hair, twisted; of silk and horse hair, mixed; of fine silk, twisted or braided, and finished with waterproof varnish or enamel; of cotton, hemp, and flax. The two latter fibres are only used for coarse fishing lines, and for night or set lines. Cotton makes very good lines if well coated with waterproof varnish; without this they cling to the rod when wet. Hair alone is now seldom to be met with; although strong,

elastic, and light, it is uneven and rough in make, and does not run nicely through the rings. A great improvement on this line is having it mixed with silk, forming the silk and hair line. This is still a favourite with many anglers, and has had a long run as the principal reel line for all purposes of fishing, especially as a trout line. It alights very nicely on the water, is elastic, has a good natural spring with it, and floats well. It requires to be carefully dried after use, and will, if attended to in this respect, last many seasons. To dry a line properly, the portion that has been in contact with the water should be loosely wound off the reel and allowed to lie on a table or dry floor in loose coils; or it may be passed round the backs of two chairs, or stretched across a room, so that the air may get freely at it for a night at least, when it should be re-wound on the reel again. A properly-constructed line drier (*q.v.*) can be procured from any good tackle maker. Silk lines, either twisted, plaited, or braided, are now much used, and supersede all other lines for fine fishing. They are dressed with waterproof varnish or coating, which gives them an even and smooth surface, so that they handle well and run easily through the rings. The varnish should be perfectly hard and dry before using, and care should be taken that it is good, as some bad varnishes have a tendency to rot the silk; others wear off after being a few times in the water. However, most tackle makers give a guarantee with their lines, and it is as well for the angler to have this when purchasing. The braided lines are now brought to great perfection, and as they can be tapered better than the other sorts they will probably take the lead. Silk lines cast well against the wind, and if got straight out on the water are quicker to strike with than any of the others. These

lines need also to be well dried after using, and will be all the better for an occasional rub with deer's fat, or, as some use, the rind of a piece of bacon, or vaseline. Lines can be got either taper or level. Some prefer one and some the other. The double taper lines cast very neatly, and as these are tapered at each end, they can be reversed on the reel, so that when one end gets worn a fresh portion can be brought into active use. The usual length of a trout or grayling line is twenty to forty yards, and that of a salmon line seventy to one hundred and twenty yards; some like one hundred and fifty yards, and it is well to have plenty, although this requires a large reel and adds weight to the rod. In Norway and Canada, salmon have taken out upwards of one hundred yards of line at the first rush. Always be sure to fasten the line on the barrel of the reel. There is another line called the blow line, which is made of floss silk, not twisted. This is used solely for natural fly fishing, and is not cast in the ordinary way, but allowed to be carried by a gentle wind or breath of air, which, with a little manipulation of the rod, it does beautifully, alighting the natural fly like a snowflake on the spot where the rising fish is making its circular rings on the surface of the water. This practice is principally carried on from boats. (See "Daping.") Lines, when not in use, should be kept in a moderately dry place, lest mildew attacks them, and they should be carefully examined, before the season opens, and tested for strength.

**Liquid Wax** is made by dissolving a small portion of ordinary shoemaker's or cobbler's wax in some methyated spirits of wine. Keep in a well-stoppered bottle, and use with a fine camel's hair brush. It is useful to put on very fine silk when dressing a small dark-coloured fly; also for

touching up the silk lapping of casting lines or any other tyings that may get frayed or loose.

**Live Bait Fishing** is practised principally for pike. A dace or gudgeon is attached to a live bait tackle (*q.v.*), thrown into the water, and allowed to swim about. It is considered rather a cruel method, and has been condemned by the late F. Francis and other authorities.

**Loach** (*Cobitis barbatula*).—This little fish is found in the brooks of Britain, and is used as a bait for the larger fishes; it is perhaps the best fish bait for eels. It has six barbs or tufts springing from its upper and lower jaws. It seldom attains a length of more than four inches, feeds on the bottom, and is sometimes called a groundling. Can be taken with a small red worm.



LOCH LEVEN FLIES.

**Loch Leven Trout.**—This game and beautiful fish is considered by some to be a separate species and by others only a variety; however, be what it may, it gives sport to hundreds of anglers and clubs that fish Loch Leven yearly. The best flies are the ordinary loch flies of Scotland, but much smaller in size—Teal, woodcock, bloe, white tip, and mallard wings, with red, yellow, green, claret, and black bodies, tinselled; also Zulus, Sam Slicks, March browns, &c. Large numbers are also caught by trolling with artificial minnows.

**Loch Tay Rods** are used for trolling for salmon on this celebrated Scotch loch. They are generally made thirteen, fourteen, fifteen, and sixteen feet long, strongly built, with upright rings.

**Marine Glue** is used by some fly dressers instead of wax for their tying silk. It is dark in colour, and consequently would not suit to dress a light-coloured fly with. It is made as follows:—Dissolve by heat one part of pure indiarubber in naphtha; when melted add two parts of shellac; heat until mixed; pour when hot on a metal plate to cool; when required for use, melt and apply with a brush. Another kind is made by dissolving twenty grains caoutchouc in two fluid ounces of chloroform; then add four drachms powdered mastic; let macerate for a week; must be kept cool and well corked. The first sort is the more common and useful.

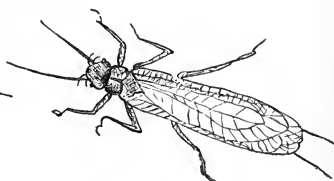
**May Fly, The.**—Two well-known flies come under his designation, and as there is some confusion among anglers in speaking of the May fly, a little explanation will not be out of place. The green drake is the fly always called the May fly in England, except in counties north of the Humber, and in Ireland it is known as the Irish May fly. The phrase “the fly is up” refers solely to the green drake, which is to be found on almost every river south of the Humber. It sometimes appears during the last week in May, but more commonly not until the first week in June. An extended notice of this fly appears under the heading “Green Drake.” The stone fly is also called the May fly north of the Humber and in Scotland, but is unknown to the midland and southern fishermen, though it is occasionally seen in Devonshire. The females of this species are the largest flies taken by the trout. Their period of existence is from two to three weeks. They are produced from the larvæ of the creeper (*q.v.*), and bred at the bottom of rivers near the edges of gravelly streams. The creepers leave the water about the middle of May,



crawl under stones close to the edges, and merge into perfect flies. Although having wings they rarely use them, but trust more to their legs and run quickly among the stones, or across the streams and pools, where they are



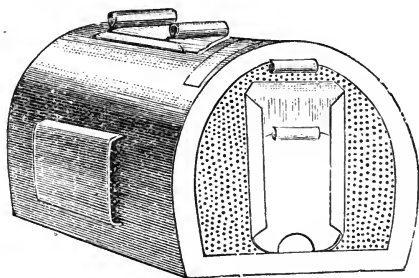
MALE STONE FLY.



FEMALE STONE FLY.

seized by the trout, generally on the look-out for them. They can be used for daping, but by far the best way is to fish them up-stream on a special tackle of two hooks, same as used for the creeper but not shotted. Trout will either take them on the surface or submerged. The female, which is the largest and most attractive, is considered the best; but when well on the feed the male fly is also acceptable. Bright, hot days, when the rivers are low and clear, also warm, rainy days and when the waters are slightly dark and full, are favourable for its use. Excellent advice for this fishing and instructions may be found in Stewart's "Practical Angler." The flies should be carried in a suitable box. A capital one is here illustrated. It is made of zinc, with a flat bottom, giving plenty of room. The top slide is used when collecting the flies at the river side, and the end slide when raised allows them to come out as the angler requires. The box is fitted to strap round the waist. The fly needs to be carefully put on the tackle, as it is tender and will not bear to be jerked when casting; it should not be drawn through the water, as this will

mutilate it and render it useless. Some anglers put two on the hook, and some three. The beginning of June is the best time for stone fly fishing, about a week after the flies



MAY FLY BOX.

have appeared. Should a small flood occur, the trout will attack them greedily; but a heavy flood will carry the flies off, and put an end to this particular sport for the season.

**Milt** is the seminal fluid of the male fish, which is ejected at the spawning season on to the eggs of the female and enters the small opening of the eggs and fecundates them. It is very essential that the milt is what is called "ripe." This may be known by the tendency it has to spurt out. It should neither be thin, watery, nor very thick. Of course these features are only observed when the impregnation is artificial, as when the natural spawning takes place it is conclusive that both male and female fish are in proper condition for carrying out the process.

**Minnow** (*Leuciscus phoxinus*) is a small fish of the genus of roach, dace, &c., and to be found in most of the clear gravelly streams of England. It swims in shoals, and rarely exceeds three inches in length. Colour: A dusky olive-green, sometimes blue on the back, shading into white and sometimes a pinky white on the belly. In

some localities it is of a pearly white, and this colour is preferred when the fish is wanted for bait, forming as it does a favourite one for salmon, trout, perch, and pike. The best size for trout fishing is about one and three-quarters of an inch long, and the largest that can be obtained is used for salmon. They are captured either by a landing net or a minnow trap (*q.v.*).

**Minnow, The Natural.**—Spinning with this is much resorted to now in the early season for salmon, and when first practised on a river is a deadly bait; after a time the fish get cautious, and approach it with diffidence. The best minnows are got in the midland counties of England, and they are also caught in quantity in the southern rivers of Scotland. For trout fishing a small neat well-coloured minnow is preferred, which can be baited simply by inserting a hook, attached to the gut, in the mouth of the little fish, carrying it down to near the vent, where it may be brought out and the barb exposed, giving the minnow a slight curve so as to cause it to spin freely; another hook is fastened above this one, and is inserted in the lip of the bait. A swivel is attached to the line about two feet above the hooks, and another close to where the casting line joins the main line. One or two coarse shot may be attached, and either inserted in the fish's mouth or they may be put further up the line. Some anglers like to have a third hook, attached to a separate length of gut and fixed to the casting line where the lip hook joins. This is called the drag hook, and hangs behind the minnow from three to four inches. The gut used for this flight should not be too coarse, but strong and sound. The minnow is cast into a stream where it begins to run under an overhanging bank, and the angler spins it quietly across to his own side, when he lifts again

for another cast. In very clear water the minnow should be worked without leads, so as to avoid splashing. During the time of spinning the minnow, the angler should keep very steady, not move from the spot he stands on lest he be noticed by the trout, which comes out from the heavy water and follows the bait right across to the shelving side upon which the angler is standing. Should it not be seized, and the angler sees the wave of the fish, wait for half a minute or so, to allow it to return to its lair, before making the next cast. When the trout takes the minnow, lower the point of rod for a second and then strike; this allows the fish to get the bait well into its mouth. When the wind ruffles a pool, there is a good chance of capturing some of the trout that are in it by working the minnow across it from the top to the bottom. In fishing for salmon, the flight should be much larger, and a good-sized minnow should be employed. The bait should be threaded on to a good link of salmon gut, with two triangles of hooks whipped on, one ending under the vent and the other just at the end of the tail. A lip hook is also attached, and a small oval of lead inserted in the mouth or gullet of the bait. The weight of the lead is varied according to the strength of the water. The flight of hooks is attached to a strong single, double, or twisted gut trace; three swivels should be in the trace, or even four. The rod ought to be fifteen or sixteen feet long, and the best reel is a "Malloch," which allows the line to be swept a good distance across the broad river or stream—more down than across. The line is then reeled in, bringing the bait across the current in a circular manner until it reaches the near side, when the sweeping cast can be again made. This cast is not an overhand one,

but an upward side sweep; and in practised hands it is wonderful the length the bait can be thrown, even against the wind—fifty yards or more. The fish generally attack the minnow before it begins to be reeled in—at the length of the cast—and must be struck well at the moment of feeling the fish. Minnows, when they cannot be obtained fresh, may be pickled by putting them in a jar with a layer of salt between the rows, pouring the brine off as it accumulates. Pickled minnows are not as good bait as fresh ones; however, they are better than the artificial ones, but they become very tender. When spinning the minnow in flooded water, it can be worked almost any way—letting it go down with the current and bringing it up with short jerks, or it may be thrown up and brought down quickly, or across and allowed to sweep round.

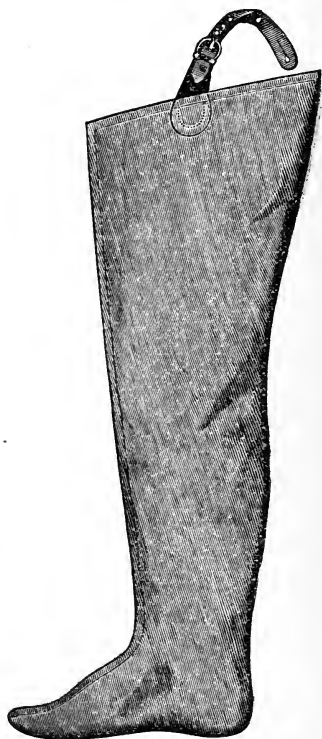
**Minnow Traps** are made by perforating a hole in the bottom of a glass bottle, through which the fish enter. The neck of the bottle is covered by a piece of fine muslin, and some crumbs of bread are placed in the bottle. Turn the neck of the bottle up-stream; the fish enter by the orifice, and cannot find their way out again. Properly-made traps can be procured from a fishing tackle maker. Minnows may also be taken by the hoop net, or by fastening a fine net to two sticks and attaching lead to the lower part of it, and when this is pushed up to a corner where there is a shoal, any number may be captured. A few broken worms thrown in are useful to collect them.

**Napoleon Boots** are made of indiarubber, and can be had either with rubber or leather soles. The latter are decidedly the best. They are very handy when no deep wading is required, or on the margins of rivers when the

grass is long and sometimes wet. They are easily slipped on and off, and for shallow stream wading are invaluable. They are also much used for shooting purposes.



NAPOLEON BOOT.



NON-ABSORBENT FISHING STOCKING.

**Non-Absorbent Fishing Stockings.**—The material of which these stockings are made is light and soft, having no unvulcanised material in their construction. They dry in a few minutes, and can be easily rolled up and put in a large pocket or in the fishing creel.

**Norway.**—Many tourists, nowadays, annually visit the Land of the Vikings—some to gratify their taste for the picturesque, which that delightful country of fjord, fos, and fjeld affords; others to avail themselves of the privilege of “wetting a line” in its numberless lakes and rivers. For the benefit of these latter, and especially for those who for the first time cross the North Sea in search of angling sport, the following hints may prove acceptable, not only to assist them in finding suitable fishing quarters, but to point out the best means of reaching these; also information as to charges for travelling by road, rail, and steamer, language, currency of the country, best guide books, together with a list of fishing rods, tackle, flies, &c., with which they ought to provide themselves. *Cost and best means to reach Norway*:—There are two recognised lines of steamers plying between the United Kingdom and Norway, entirely devoted to passenger traffic. One is the Wilson line of steamers, sailing on different days from Hull and landing passengers either at Stavanger or Bergen. Single fares, including meals, are £4; return fares, £6. This line also has steamers running to Christiansand and Christiania. Single fares to these places are £4; return fares, £6; victualling, six shillings and sixpence per day extra. The other is the Halvorsen line. This firm has two fine steamers. One is named the “Norge,” which carries seventy first class passengers, leaving Newcastle-on-Tyne every Thursday evening at five o'clock. Single fares, meals and steward's fee, £3; return fares, £5. The other vessel is the new and now celebrated “Britannia.” This steamer is luxuriously fitted, and for comfort is without doubt the finest afloat. It carries one hundred and fifty first class passengers, and has a speed of sixteen knots an

hour. The state rooms are lofty, well ventilated, and lighted by electricity, and the steamer is well provided with baths, &c. This vessel sails from the Albert Edward Dock, Newcastle-on-Tyne, every Saturday evening at seven o'clock. Single fares on this steamer are £4, including meals and steward's fees, and return fares £6. Both the "Norge" and "Britannia" call at Stavanger on their way to and from Bergen. An agreement has been made with the North-Eastern Railway Company to convey passengers free of charge from the Central Station, Newcastle-on-Tyne, to the Albert Edward Dock, the railway running alongside the quay where the "Britannia" is moored. It returns every Thursday, leaving Bergen at nine p.m., and calls at Stavanger to pick up passengers. The "Norge" leaves Bergen every Monday evening at nine, also calling at Stavanger. Those who make their way to Stavanger must bear in mind that it takes seven hours after the steamer leaves Bergen before it reaches Stavanger. The average passage in the "Britannia" from Newcastle-on-Tyne to Stavanger is from twenty-three to twenty-four hours. The "Norge" is not so quick; her average passage for the same distance is thirty to thirty-one hours. The "Britannia" leaves on certain dates the port of Granton, Edinburgh, direct for Bergen, on Wednesdays; but for further information on this point the reader should apply to Borries, Craig, & Co., Newcastle-on-Tyne, and be sure and have berths booked well in advance to prevent disappointment. *Luggage*:—The tourist who has a fixed abode to go to, and does not intend moving from place to place, may take as much luggage as he considers necessary for his comfort, as he can generally get it conveyed by steamer to the nearest point, and thence by road to his fishing



quarters ; but to the angler who wants to view the country and explore the fishing in several localities—perhaps take long journeys to distant lakes, out of the beaten track and far away from the main roads—the question of luggage is a very important one. If hampered with too much it will sadly mar his pleasure, and in many cases prevent him from making certain excursions, as it is hardly possible to get a lot of luggage conveyed over mountains, particularly in thinly-populated districts ; besides, the conveyance of it would be very costly, and altogether prove to be a nuisance. The advice tendered is to take as little as possible, and only what can be carried in a handy valise. The angler should travel in a warm suit of clothes, and have a change in case of getting wet through. A spare flannel shirt, with loose turned-down collar should be taken ; flannel is comfortable to fish in, either in cold or hot weather. A good waterproof coat, to strap on the fishing bag or basket, so that it can readily be got at in case of sudden rain, is also necessary. A light pair of shoes or strong slippers will prove a comfort, to relieve the feet after a hard day's fishing in heavy boots. A warm topcoat or ulster will be found extremely serviceable in crossing the North Sea ; this, or any surplus clothing, can always be left in the hotels or shipping offices, either at Stavanger or Bergen, and come in very acceptable on the return journey. *Fishing Stockings and Brogues* add much to the luggage, and are practically unnecessary for trouting in Norway. For lake fishing they are of no use at all, as this is generally practised from boats, and the rivers are far too deep and rapid to make wading practicable. With a long rod the angler can pretty well command as much water as he likes ; therefore, these otherwise useful articles are better left at home. *Rods*

*and Tackle*:—A fly rod of eleven feet is the right length for most of the rivers, and a fourteen feet double-handed rod is also recommended for lakes and rivers where the one-handed rod is too short; besides, this rod may be employed for sea trout and an occasional salmon, should the angler fall in with any. Another one is also indispensable, and that is a short trolling rod from ten to eleven feet; this comes in for trolling in the fjords, near the mouths of rivers, when sea trout and salmon are ascending, and also on lakes for large trout, some of which run up to eight pounds. A spare top to each rod is necessary. The best plan to carry these rods is to have a light common deal box made, with two straps and buckles, and fitted with a lock. The whole will not weigh much, is easily strapped to the shaft of a carriage or stolkjærre, and prevents any breakage, which otherwise might occur. Some strong black thread and shoemaker's wax, in case of accidents, should not be omitted. *Landing Net and Gaff*:—The best is a good-sized collapsing or folding landing net, with shaft of ash about five feet long, the net to screw into shaft. A gaff hook made to take the same shaft will come in handy for sea trout. These should also be packed in the box. *Basket or Fishing Bag*:—As this is entirely a matter of choice, either can be taken. A basket is very useful to carry odd articles in, and weighs but little. *Flies*:—These do not take up much room, so let the angler take plenty—all sizes—for river and lake, some for sea trout, and a few of the best patterns of salmon flies. For river trout, flies dressed on No. 4 to 6 hooks are the best, viz., Coch-y-bondu, Greenwell's glory, heather moth, red palmer, Lee's favourite, Alexandra fly, Zulu, March brown, mallard and claret body, woodcock wing and red body, bloe wing and

red body, teal wing and red body, a large light dun fly ribbed with silver tinsel, and Heckham Peckham, always kill. These constitute a good useful range of flies, and should be tied to undrawn gut, as Norwegian trout are not so fastidious as those in England; besides the rivers are rough, running over sharp boulders, therefore drawn gut is not suitable. For lake fishing have two or three sizes, viz., Zulu, Heckham Peckham, black and red body, red palmer, woodcock wing and red body, bloe wing and red body, bloe wing and blue body, heather moth, mallard and claret, teal and red, and many other Scotch loch flies will kill equally well in Norway. For salmon flies take Jock Scott, Durham ranger, black doctor, Benchill, Childers, and silver doctor. A good supply is needed of three yard casting lines to suit river, lake, and sea trout; also a few stronger for salmon. *Reels* :—Two reels will do for the three rods. One of them should be about two and a-quarter or two and a-half inches, with thirty or forty yards of No. 2 Canadian line; the other a small salmon or sea trout reel, to contain no less than sixty or seventy yards of line, about No. 4 thickness. The latter can be used on the fourteen feet rod or on the trolling rod, according to the fishing required; but an extra reel sometimes comes in handy. *Minnows and Traces* :—It is very important that a proper set of minnows and traces should be provided, as in many of the lakes it is necessary to troll; by using the correct pattern some of the largest trout are captured, and in many of the fjords at the mouths of rivers fine sea trout and salmon are often taken by trolling, and excellent sport it is, the fish being in the prime condition and affording the best of play. Blue and brown phantoms stand first on the list, the former colour generally killing well; Nos. 3, 4, 5, 6, and 7 are the most

useful sizes. The Devon minnows rank next; the best sizes are two and a-half, two and three-quarters, and three inches, blue backs and gold bellies. The bar spoon is most deadly and also the pearl phantoms. Single, double, and treble gut traces are necessary, each trace to have four swivels and detachable leads. For river trolling, Nos. 1 and 2 quill minnows will be found to kill in heavy waters, and should be included in the outfit. *Guide Books and Maps*:—There are many of these, all good in their way—"Wilson's Guide to Norway," with maps, published by E. Stanford, Charing Cross, London, price five shillings; "The Land of the Vikings," by Jurgenson, published by Walter Scott, London, price three shillings and sixpence; but by far the best and most reliable is "Baedeker's Norway and Sweden," which is generally to be depended on. There are numbers of excellent maps of Norway; one issued in two sheets, by F. Beyer, of Bergen, gives all the principal roads, by-roads, railways, mountain paths, and boat stations. A good map is even more useful than a guide book. *Language*:—This need not trouble the visitor much, as English is spoken more or less in every hotel and station along the main roads; besides, many of the drivers and boatmen speak it, if not fluently, yet well enough to be understood. It is only when the tourist gets right away from the main roads, far up the mountains, that he may find himself at a loss for the language. An excellent phrase book is published by Bennett, giving in English and Norske most of the common and familiar questions likely to be required. If the tourist cannot pronounce the question in Norwegian, he can at all events point it out and allow the native to read it; they are generally quick enough to comprehend, and are always willing to oblige a stranger.

*Money* :—Norwegian currency is soon understood. There are only two kinds, krone and óre. One krone is equal to one hundred óre. In bronze they have one óre, two óre, five óre ; in silver, ten óre, twenty-five óre, fifty óre, one krone piece, two kroner piece, four kroner piece ; in gold, five kroner piece, ten kroner piece, twenty kroner piece. Notes are issued for five, ten, fifty, one hundred, five hundred, and one thousand kroner. One penny in English money is worth seven and a-half óre, sixpence is worth forty-five óre, one shilling is worth ninety óre, half-a-sovereign is worth nine kroner, a sovereign is worth eighteen kroner. F. Beyer, 2, Strangaden, Bergen, will exchange English money into Norwegian free of cost ; but a slight commission is charged for the re-exchange from Norwegian into English. The tourist should have a lot of small change for disbursements, required for boatmen, drivers, &c. *Travelling* :—If the tourist lands at Bergen, he will find steamers going daily to all parts of the coast. The hours, however, vary ; but every information will be given on applying to the landlord of the hotel or to the shipping companies. There are regular fixed charges for meals on these vessels. A breakfast costs about one krone fifty óre ; dinner, two kroner forty óre ; supper, one krone fifty óre. Wine and beer are extras. Man and wife, father and son, or brother and sister, may travel for a fare and a-half ; several members of one family are carried at a fixed reduction. This does not apply to the ocean steamers, only to the home mail boats. If the steamers do not run to suit the visitor, he may, in many places, demand a boat, with three men and six oars. A table giving the legal boating charges is to be found in the guide books. This mode of conveyance is a legal obligation imposed on the

peasants, and they are bound to provide the boat and men to row it. The hotels in cities like Bergen have increased their prices considerably during the last few years, and it may be generally stated that it costs from eight to ten kroner per day, in the large country hotels six to seven kroner, and in smaller hotels three to five kroner. These charges are exclusive of wine or beer. If anglers wish to keep expenses down they must avoid making long sojourns in the large cities. The tourist intending to stay for many days at an hotel can always get a reduction of terms, by arranging beforehand. Four or five kroner is amply sufficient to pay for country hotels. The other mode of travelling is by road, either by carriage or stolkjærre. The former seats one passenger, the latter two. A postboy sits behind each conveyance, generally on the tourist's luggage. The cost of travelling by carriage is about seventeen øre per kilometre, and by stolkjærre, when two occupy the cart, twenty-five øre per kilometre. The scale is fixed by the Government, and the distances from one station to the other are generally given in all guide books, so that the tourist knows exactly what he has to pay. A small gratuity is expected by the postboy; twenty øre per Norwegian mile (seven English miles) is generally given. It may be stated that the traveller will be kindly and civilly treated by all sections of society in Norway, and of course is expected to return that kindness. The natives are particularly honest, polite in their demeanour, and willing to assist visitors in every way to add to the pleasure of their trip. If the traveller is driving, he must bear in mind to keep to the right, whereas in England the rule of the road is to keep to the left; the rule is reversed in Norway. *Railway Travelling*:—The writer has travelled

on one railway only in Norway, that from Bergen to Voss, the entire length being sixty-seven miles. The train passes through forty-eight tunnels, and the line—a narrow gauge one—is a wonder of engineering skill. The cars, which are on the American system, run at a speed of twenty miles an hour, passing through beautiful scenery, and the journey is well worth the price of a third class return ticket, which costs five kroner eighty öre. *Fishing Quarters*:—From Bergen there are steamers running to all the principal fjords, so that the angler can have unlimited choice. A nice trip can be made by taking the rail from Bergen to Voss, by Tvinde to Opheim, where he will find a good lake for fishing; thence to Stalheim, and down the Nærödal to Gudvangen, and then by steamer to Vadheim, on the Sogne Fjord. From Vadheim to Sande are numbers of lakes, and in the neighbourhood of Sande, in Vicks Vand, there is good trout fishing. From Sande proceed to Forde Hafstad. At the latter a stay should be made to fish Mo Vand and Digernas Vand. Further on comes Nedre Vasenden, at the end of the celebrated Jolster Vand. From there to Loen, the angler should be satisfied, as all the lakes and rivers yield good angling. Sometimes at Loen sea trout fishing is to be got free. If time permits, this journey may be continued by way of Red and Faleide to the celebrated Romsdal Valley, where excellent angling can always be obtained; thence back to Bergen by mail boat. By taking steamer to Christiansand the main road leading into the Setersdalen district can be explored, and its numerous lakes and rivers fished. Thelemarken is a good fishing locality, and can be reached from Stavanger, by way of Sande, sailing up the Suldal Vand—a splendid fishing lake; then by way of Næs, through the fine valley of Bratlands, and on to Roldal. The fish run small in

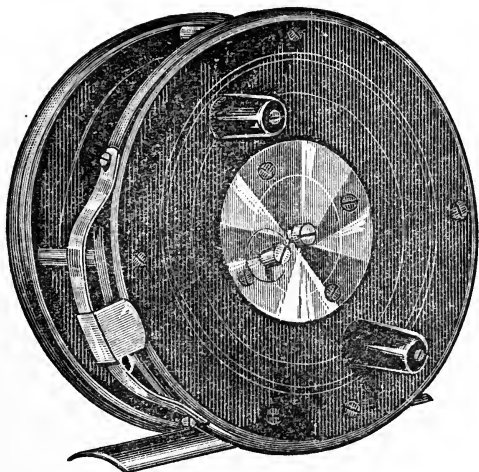
Roldal Vand. The road can then be taken over the Haukeli Fjeld, on to the Haukeli Sæter; then to Botton, and right into Thelemarken. From Christiania numerous districts in southern Norway may be reached. A word of caution as to the best time to go to Norway. It depends entirely on the particular localities. In the low-lying districts of the Hardanger, and south of this, fly fishing commences as early as June; but in all the lakes far up the mountains (many of which lie near the snow line), and in the higher reaches north of the Sogne Fjord, the latter part of July and August are the best months. It is rather difficult to advise, as the seasons vary in Norway the same as in other countries. A warm summer helps to clear the snow away sooner than a late one, and trout come to the fly earlier. As fishing months, taking Norway altogether, July and August are decidedly the best.

**Nottingham Reels.**—These are wood reels, different from the ordinary brass kinds, and are principally made from old gun stocks, and also from ebonite. They revolve on a spindle, and are generally employed for pike, roach, chub, barbel, and other kinds of coarse fish. They are also well adapted for sea fishing, and occasionally for trout and salmon spinning. The better kinds are fitted with a check action, which can be applied or not at pleasure, as shown in illustration on next page.

**Nottingham Style.**—This term is applied when throwing or casting from the reel is practised. The rod generally used is one made from either greenheart or East India cane, moderately stiff, with upright rings, and about eleven feet in length. The best reel is a Nottingham pattern, three and a half or four inches diameter, with check to take on or off, fitted with a spring, so that the drum can



be detached in case the line is caught and also for the purpose of oiling, as it is necessary that the reel should run very freely. One hundred yards of silk line plaited is the best; it does not "kink" so much as a twisted line; it



NEW NOTTINGHAM REEL.

should be undressed, as in this state it runs better through the rings. The rest of the tackle differs according to the kind of fishing engaged in. This style is chiefly adopted in capturing chub, barbel, and jack.

**Nottingham Twist.**—A silk unvarnished twisted line, made in various lengths, and used for blow lines principally.

**Otter, The** (*Lutria vulgaris*), is the king of poachers, and is of the weazel family, but differs widely from the rest in its aquatic habits. The body is long and flat, covered with a smooth soft fur of two kinds—an inner and an outer coat. Its teeth are strong, and the molars being much

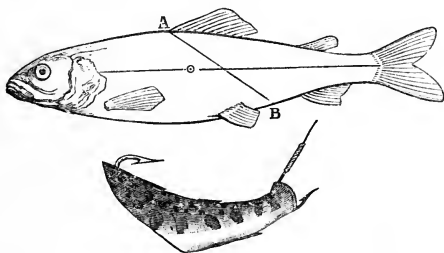
pointed to enable it to hold its slippery prey. It attains a large size, often measuring six feet from the nose to tip of the tail, and weighing up to sixty pounds. It frequents rivers and lakes, inhabiting some hole in the bank. It swims rapidly, and dives with wonderful agility. Its food chiefly consists of fish. It destroys more than it eats, and generally feeds on the daintiest part, such as the shoulder. It is a very wary, suspicious animal, and is seldom seen in daylight. It can be caught by laying a strong rabbit trap on its "spraint" or droppings which may be found on its path. The trap must be securely fixed to pins well driven into the ground, as the otter is so strong that he will make off with it if not very secure. He is generally caught by the toe or the foot. Otters are also hunted by hounds bred for the purpose. This sport is chiefly confined to Wales, Scotland, and one or two districts in England.

**Otter, Artificial,** is an implement used in the taking of fish, principally trout and salmon. It is not recognised by true sportsmen, and is prohibited by law. It consists of a piece of wood, about eight or nine inches deep, three-quarters of an inch thick, twelve to twenty inches long, rounded at both ends, brought to a thin edge one way and the other edge square and shod with lead sufficiently weighty to allow it to ride in the water plumb and submerged about three-quarters of its depth; painted a slate colour. On one side, in the centre, is driven a staple of brass wire, four inches long, on which runs freely a stout brass ring; this is called the bridle. To this ring is attached the reel line of a fishing rod or a hand line. From this main line depends, every four feet, a strong gut dropper about twenty inches long, to which an artificial lake trout or large river fly is attached. There are usually six

of these droppers, but there may be as many as the angler fancies. The otter being attached to the line, swims away abreast of a boat at whatever distance the angler likes to allow it. The flies skim the water, and are supposed to attract the fish, but very few ever come to net taken by one of these machines. They are awkward to manage, and between fouls and breaking away the basket is generally light. The droppers are attached by small box swivels to the main line. The Norwegians use this poaching instrument extensively on their lochs, and kill quantities of trout by its aid.

**Otter Bait.**—A metal spinning bait, made in several sizes, but not in large demand for fresh water fishing, as the improved spoons have quite superseded it; but for sea fishing this bait is perhaps unequalled.

**Par-tail Fishing** is practically the same as minnow fishing, but confined principally to Scotland, and advantageously employed when minnows are scarce. It is a very successful mode of catching large trout, particularly



PAR-TAIL, BAITED.

when rivers are in flood. Stewart, in his book on angling, says, "Divide the par across from A to B, and cut 'off all the fins till it resembles the second figure; then take the large hook and, entering it at the tail, run it along the back

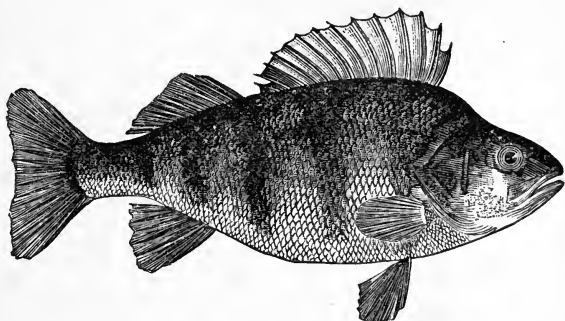
and out at the other end, curving the bait to make it spin." The illustration on the preceding page is the tackle he recommends, with flying drag, but it is also baited on the large hook and lip hook tackle, which answers just as well.

**Paste**, to angle for coarse fish, such as carp, roach, barbel, &c., can be made in a variety of ways. The principal material that is used is white loaf bread, either stale or fresh. If the former, take a small bit out of the centre of a loaf, dip in water, and work up in the hands until it has arrived at the proper consistence and toughness. This is the best paste for roach, as a very small pellet of it can be fastened on the tiny hook. If the paste is made from fresh bread it needs no water, but is thoroughly kneaded by the hands, and soon gets very tough. This is a good paste for chub, as it takes a firm hold on a large hook, and is also suitable for dace, as, on account of its tenacity, it can stand stream fishing. A useful paste can also be made by kneading flour and water together, working it so that the finer particles are washed away, leaving a glutinous mass behind; it can be coloured with a little vermilion, and can be kept some time, immersed in cold water. Another sort is made by kneading flour, water, and cotton wool together. The wool retains its hold on the hook, keeping the paste from washing away. Pastes are also made by mixing bread and honey, and flour and glue, &c.

**Paternoster** is principally employed for perch fishing, but is not much practised with outside the Thames, as to work and set it up properly requires some skill and trouble. It is usually made from fine strong gut, three or four feet long, with a lead weight attached to one end which rests on the bottom. To this gut casting line, two, sometimes three or four, small gut droppers are attached,

nine or ten inches from each other, the lowest dropper being close to the lead. The hooks are fine light wire lip hooks, which may be fastened either to the lip of the minnow, which is generally the live bait used, or in its back fin. These minnows spin round and about the line, which may be dropped by the rod into the several spots where the perch are supposed to be, allowing the lead to go to the bottom. Keep the line tight. If no bite, raise and drop in another place. At the first nibble lower the front of rod, and strike when there are one or two repetitions. Play the fish and lift by landing net. This style of fishing is often done from a punt. Two anglers can work, and they assist each other in landing the fish.

**Perch** (*Perca fluviatilis*) are very handsome fish, found nearly everywhere in the British Isles. They live in waters moderately deep, with pebbly, gravelly bottoms, and ensconce themselves in holes at the sides of gentle streams,



THE PERCH.

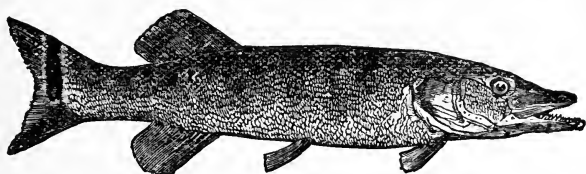
and in hollows under banks or heavy roots of trees jutting out from them. They thrive well in ponds that are fed by streams, spawn in early spring, and a single fish will deposit ova calculated in some cases to the amount of two

hundred and fifty thousand. The body of the perch is deep, and the back heavily arched. The mouth is very large, and has numerous teeth set in the roof and the jaws. The colours are beautiful, the back and well down the sides being of a deep green, marked with distinct upright bars of a black colour; the belly is white, sometimes tinged with pink. The perch has a distinguishing feature in the dorsal fin, which is spinous and flexible, and from the powerful spines which it possesses, causes this fish to be dreaded by all the other denizens of the water.

**Perch, Fishing for.**—There are various modes employed in capturing perch. The most commonly used is the live minnow, either attached to a single hook and fastened to a float, or with the paternoster (*q.v.*) style of tackle. When a perch attacks the bait, he does it in a nibbling, half-hearted sort of way, so that, although the float keeps bobbing up and down, yet this is no sign that the bait has been swallowed. Better to allow time, and when it sails away under water, strike then. They can be fished for with a spinning minnow or a small spoon, and this is a very successful plan in lakes and ponds where perch abound. A good lively red worm is as good a bait as any for still perch fishing, and very much used by the rural anglers in the deep reaches of rivers where they are. A gloomy, blowy day is a good one to fish for perch in. They swim in shoals, and if you get into one of these, and catch one fish, there is almost a certainty of getting nearly the whole crowd, one after the other. Perch will take a gaudy fly with plenty of tinsel about it, but it is uncertain when they would be in the humour to do so, consequently a fly is seldom used for them. When worm fishing for perch, it is useful to throw in occasionally a handful of broken worms—this puts them

well on the feed. Let the tackle be strong, the rod short and stiff, and don't give much time before landing the fish, as making much disturbance where a shoal is, sometimes puts a stop to the sport, as perch are very wary.

**Pike** (*Esox*).--A fish found over all Europe, and very abundant in the rivers, lakes, and ponds of the British Isles. It has rather a largish body, covered with scales of a strong texture, with a broad, flat muzzle, and very large mouth, furnished extensively with teeth of various sizes. The colour of the upper part of the body is olive brown, becoming lighter, and mottled with green and yellow on the sides, and passing into silvery white on the belly. The pike grows to a very large size. Specimens have been caught in lakes in Ireland weighing over seventy pounds. It is an exceedingly voracious fish, and has been in conse-



THE PIKE.

quence called the fresh water shark. It is capable of digesting almost anything it can swallow. The pike will attack any fish, even if of superior size, and greedily devours all smaller. Frogs are favourite morsels, and it will devour water rats, young ducks, and even young geese become its prey. It soon depopulates a trout river, and an incessant war is waged against it by all lovers of the gentle art. It spawns in the early spring, and is best in season in the late autumn. The flesh is considered good by many.

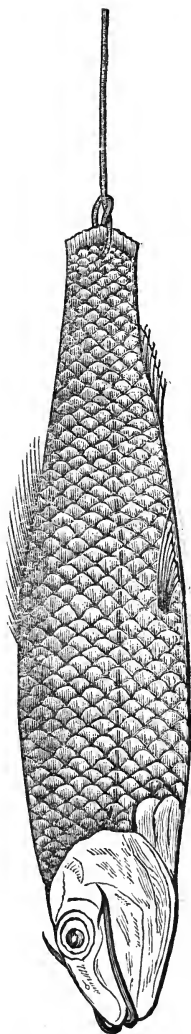
**Pike Fishing** may be carried on in various ways. This fish is so greedy that almost any sort of bait will entice

it; and as it is strong and furnished with numerous and very sharp teeth, the tackle should be of suitable strength, and where traces are employed fine gimp must take the place of gut. If live bait is employed it is usual to work it with a float, as the line being long it is nearly impossible to keep the bait at the proper depth, which is about mid-water. The float effects this, and the leaded line keeps it from rising to the surface. Care should be taken to prevent the live bait from getting into weeds, by reeling in the line until the danger is past. As soon as a pike seizes the bait, the float disappearing denotes this fact, when the angler should allow the line to run off smoothly as any tightening of it may cause the fish to be suspicious and to leave the bait. After a little the line ceases running, during which time the pike is gorging the bait; when it moves again is the time to strike; and after a little play—the first rush is the worst—it may be brought to net. The snap hook is employed when the pike is wary and not inclined for other modes. The small hook of this tackle is fastened to the back fin, and the two large hooks lie against the side of the fish. When the pike seizes the snap bait—whether gudgeon, dace, or minnow—the angler must strike at once; this action withdraws the snap, causing the hooks to expand in the mouth of the fish, and prevents it ejecting the bait. Trolling with dead bait is also a successful mode of fishing, using the gorge hook. The best baits are gudgeon or dace. The baiting needle is thrust down the body of the fish and out at tail, drawing the gimp-fastened gorge hook after it, until the hooks come in against the sides of the mouth of the bait. The tail of the bait may be fastened to the gimp with a lashing of thread, to keep it straight. The trace should be joined to the looped gimp by a hook swivel.

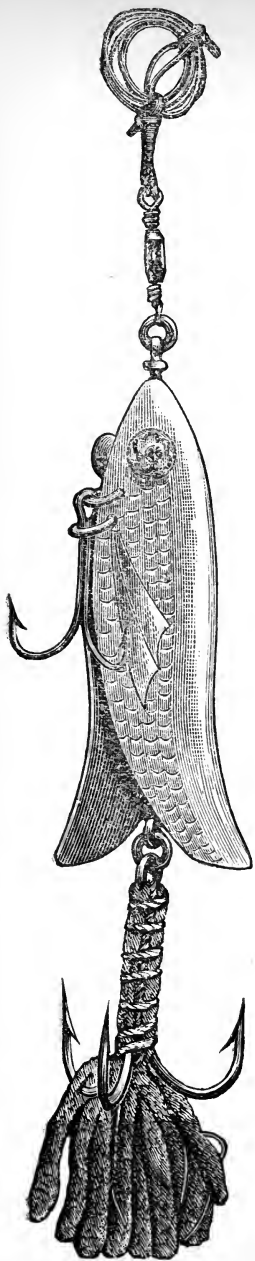




GORGE HOOK.



GORGE HOOK, BAITED.



ARTIFICIAL PIKE BAITS.

The bait may then be cast across the stream or into the pond, having plenty of line lying loose or coiled in the hand so that it may go a good distance and drop gently, when the line may be reeled up in a jerking manner to imitate the swimming actions of the living fish. When the pike seizes the bait, which will as a rule be felt, allow it plenty of time—four or five minutes—to gorge; then strike and play. Spinning with dead bait is also practised, using any of the spinning tackle (*q.v.*) the angler fancies. The most general way of fishing for pike, and the handiest, is with artificial baits, principally spoons, by spinning, either from a boat, if in a lake or extensive sheet of water, or from the bank of a river. When fishing from a boat where large pike are known to exist, hand lines are often used, as in sea fishing; but the play is not so exciting as with the rod. Pike are also very fond of a frog, and many a good fish is taken in canals and still rivers by the rustic angler walking along the bank spinning after him a frog baited on a few hooks. Artificial frogs—lifelike imitations—can now be procured from tackle makers. There is also a fly which sometimes lures a pike in summer weather. It is formed by the moons of a peacock's tail. Pike are the only fish that do not seem to care for worms, and this bait is not used for them except occasionally by set lines. In releasing the hooks from the pike's mouth, gullet, or stomach, it is necessary to beware of its teeth, which are apt to inflict nasty injuries to the fingers. If the hooks are in the jaw, a gag should be put in the pike's mouth, and the hooks cut out with a knife; if they are swallowed, release the trace from the bait tackle, cut open the gullet, and withdraw the hooks through the opening. The fish should

be knocked on the head the moment it is landed, which ought always to be done by a landing net or gaff.

**Pike Flies** are perfect monstrosities in fly making, and are generally dressed on large, strong double hooks. The wings are composed of a mass of coloured feathers, the gay peacock eyes standing out most prominently. The body is made thick, ribbed with gold or silver twist, and two glass beads are tied on the head to represent eyes. The flies are about the size of a small bird. They are used in summer, and worked by means of jerking on the surface of the water.

**Pipe, The.**—The best sort is a straight-stemmed briar root, with a vulcanite, bone, or horn mouthpiece. Bent-stemmed pipes are apt to allow the smoke from the bowl to get into the eye, and this is anything but pleasant when one is ardently on the look out for the rise of a fish. An angler who smokes should accustom himself to keep his pipe in the left side of his mouth; it is more out of the way than when in the right. A cigar is a nuisance when fishing; it does well enough when resting after lunch. Be sure and knock the ashes out clear before putting the pipe in the pocket. Many a man has set fire to his coat by not doing so.

**Pisciculture, or Fish Hatching** by artificial means, has made great strides within the last few years, and is now carried out successfully in many establishments scattered over the country, and being remunerative under careful management many more will continue to arise. The first essential feature in fish hatching is a constant steady supply of pure water, mechanically pure as well as chemically; and it is very necessary that any danger of freshets or floods should be avoided. It is found

that spring water is the best for hatching, on account not only of its purity, but of its standard heat—the same in summer as winter, but brook water is the best for the young fry after they leave the egg. A brief description of the mode of trout hatching is interesting. The spawning fish, male and female, being obtained, are kept in separate ponds or tanks until required. A shallow pan, such as is used in dairies for cooling milk, is placed in position. It is essential that both the ova of the female, and the milt or seminal fluid of the male fish are ripe. If the eggs do not flow freely under the slight pressure of the thumb they are not ripe, and the fish should be put back and another taken. The same with the milt. If it is ripe it will assert this fact by spurting out. The female fish is caught in the right hand by the head and above the tail with the left. The thumb of the latter is carried above the exit of the eggs, and a gradual downward striping pressure is exercised, and if the ova or spawn is ripe it will flow out evenly into the pan. The male fish is then held over the pan in the same way, and the milt allowed to spread over the eggs. It is not necessary that these should be in water, as there is quite enough of the latter dripping from the struggling fish to convey the milt over the eggs. The eggs, having an infinitesimal orifice at one end, attract the milt, which enters the orifice and the impregnation is complete. The power of the eggs to attract the milt lasts about thirty minutes, after which it ceases and no successful impregnation can take place. Stir the eggs well with a feather, and allow about two inches of water to flow over them for about forty to fifty minutes; the eggs which have hitherto been in contact will separate, and these then should be washed or rinsed till clean, when they may be conveyed to the hatching

boxes. The boxes in which the fresh eggs are hatched may be either made of wood (charred or carbonized), or from stone, slate, or glass. On the bottom of these boxes is placed gravel, perfectly clean, which has been boiled to get rid of the insect life, in size about that of a pea; on this gravel the eggs are placed, over which a flow of water passes, about two inches deep, which must filter through properly arranged flannel screens, to prevent any sediment or impurity passing over and settling on the eggs. Occasionally these are washed with the rose of a watering pot to get rid of any glit or sediment which may have settled on them; allowing such to accumulate is fatal. The hatching boxes should be covered with lids fitting accurately, to prevent the ingress of frogs, snails, mice, caddis worms, &c., which would prey upon the eggs. During the process of incubation there are four enemies to success, namely, fungus, living enemies, sediment, and dryness. The first arises from the eggs themselves, and is occasioned by allowing any decayed ones to remain among the sound; all these should be removed every twenty-four hours during the period of incubation. Fungus is a great pest, and can only be warded off by cleanliness and using charcoal, having the boxes made from charred wood, and keeping the water in the dark. Sediment can be guarded against by judicious arrangement of the filters, and living pests by closely-fitting lids, and guarding the ingress and egress of water by fine wire nets. The period of incubation in trout is from fifty to seventy days, according to the temperature of the water—the colder it is the longer the hatching is retarded. Salmon eggs take longer, from seventy to ninety days. A little practice is necessary to distinguish the bad eggs from the fertile. In the early days

of the hatching one of the distinguishing marks is : In the unimpregnated egg a small annular disc, with a smaller round dot in the centre, will be seen on the top of the egg, and will remain there until the egg turns white, while that on the sound egg will disappear in twenty-four hours. The first appearance of the alevins (*q.v.*) or hatched fishes is like little splinters of dark wood about half an inch long ; the yolk of the egg is attached to them, and remains so until it is absorbed, and the alevins begin to feed, and are now called fry. In six or seven days the alevins begin to move about in an aimless fashion, and need no attention except to keep screens clean and the water flowing nicely. About the twenty-fifth day the egg sac is quite absorbed, and then the trout fry must be fed—first with hard-boiled yolk of eggs beaten up very fine, and afterwards with liver and curd. They must be fed four times a day until they are one year old. It has been found that occasionally throwing some loamy soil into the water has a great tendency to prevent many of the diseases to which young fry are liable. The yearlings can be put into ponds or streams, or may be transported to stronger water with perfect safety. The average length of well-cared for healthy fry at a year old is about three inches. The following description of salmon hatching has been kindly furnished to me by Messrs. Foley, of Lismore, Co. Waterford, Ireland, who have been very successful in their extensive hatching establishment, which has been arranged on the latest and most improved principles. As they are the lessees of the Blackwater fishery it is almost a necessity for them to breed and increase salmon largely, seeing that they are under a heavy rent:—"Some years ago an attempt was made to propagate salmon artificially, but such was the difficulty of obtaining

ripe spawning fish, as well as the expense, the undertaking was abandoned. This season the killing hatch has been utilised for the purpose of capturing spawning fish. The nearly ripe parents are taken from the hatch and placed in ponds having a strong running stream passing through them. They are retained in these until they are quite ready for spawning. Unripe spawn is worse than useless, therefore, considerable judgment is required to use the fish at the proper time; also to match the fish as near size as possible, as the milt of a large fish should not be put with the ova of a very small one. The ova, by gentle pressure of the hand, is extracted into an earthenware vessel (such as that used for milk), and the milt at once distributed sparingly over it, and then gently mixed with the hand. This is now allowed to remain in darkness for about half an hour. If the temperature be over the average the eggs will separate in less time, and impregnation has taken place. The change of colour of the eggs will be seen at once—from a bright red amber to a duller hue. Both tin and zinc trays have been tried for laying the spawn on, but glass grids, made for the purpose, have been found superior. The period of hatching depends entirely on the temperature of the water; average, say from sixty to eighty-five days. The boxes used at Lismore for hatching measure about nine feet long and fourteen inches wide, and deep enough to permit a run of seven inches of water. Pure spring water is used until the ova is 'eyed,' after this period the best water is that of a mountain stream. From six to seven weeks the hatched fish remain in these boxes with little or no food, but before the yolk sac is entirely absorbed it is prudent to induce the young fry to feed. The most suitable food is powdered liver or patent food supplied by Mr. Ford,



of Caistor; this latter has been found to be all that is desired. After seven weeks the fry are removed to the rearing ponds and judiciously fed with a properly-mixed insect and animal food until they arrive at the par stage. This year (1890) there have been turned out into the river several hundred thousand healthy fry, and as many retained to be turned out in the spring of 1891." It is easy to hatch perch, and a successful mode of taking the eggs is mentioned by Levingston Stern in his work "Domesticated Trout":—Take a good sized milk pan nearly full of water, having two ripe fish handy. Impregnate the water with the milt, then take in hand the female fish, hold her over the pan of water so as to let the exterior end of the roe rest, as it comes out, on the further edge of the pan; it will stick at once. Then draw the fish slowly over the pan to the opposite edge, letting the roe fall in the water, and fasten it as before, on the edge of the pan. The roe will thus be suspended in the water in such a way that it cannot get together and stick and suffocate itself, as it would do if it had a chance. Shake the pan a little. In an hour rinse the eggs, change the water twice a day, and in twenty days, if the water is not too cold, the eggs will hatch. Sixty degrees Fahrenheit is a good temperature to hatch them in, but they will stand a temperature as high as eighty-five degrees, and the development becomes very rapid. A singular feature of the embryo is its movement in the egg, which begins as soon as the fish is visible. The little creatures jump from one wall of the egg to the other with quick spasmodic movements. This motion is incessant day and night, and only ceases for a moment when the eggs are shaken.

**Plummets.**—These are simply leads attached to a line to ascertain the depth of water, and are used by the

fishermen of the Thames to regulate the proper distance at which to work their floats.

**Poaching Fish** is not only unlawfully entering on another's fishery in order to capture fish, but also taking them by illegal means (*q.v.* "Laws, Fishery"). An owner would be guilty of poaching on his own waters were he to capture fish during the close time or use an illegal net in the river, or angle for salmon with rod and line without having a license, or do several other illegal acts. A man is a poacher if he angle in any river rented or owned by another without having proper permission from the owner or his agent. In England and Ireland navigable rivers are *prima facie* free, and where anyone can fish, he can catch salmon as well as every other fish with legal and licensed engines. But there is an exception to this generality—a grant from Magna Charta; and as this has been given in very many instances to proprietors, care should be exercised to acquire this knowledge before fishing in any manner on a navigable river. When a poacher is caught in the act, he may be apprehended by the owner of the fishery. All rods, lines, &c., may be seized by the owner or his keepers, watchers, or other servants; or by a river bailiff. This can only be done while he is on the spot. If he escapes to the highway or into adjoining lands he cannot be arrested, but he can be summoned for the offence before the justices. The law of Scotland differs considerably from that of England or Ireland with regard to poaching. In Scotland salmon stands on a different footing from all other fish, and *prima facie* belongs to the Crown, so that no person is entitled to fish for salmon (except by angling) unless he can produce a charter or grant from the Crown; but nearly all the great fishery proprietors are already in

possession of this. Any one who poaches trout or other fish with net, double-handed rod, cross line or set lines, incurs a penalty of £5 and forfeiture of the fish ; and he may be arrested if he be net fishing, but not otherwise. A man angling for trout—that is, using a single-handed rod with line and hook—although he may be poaching, cannot be arrested nor punished by any penalty except that obtained by an action at law, which may be taken against him. However, the poaching angler for salmon can be fined. His name and address should be taken, and a summons obtained for “unlawfully taking or attempting to take,” &c., &c. The worst kind of poaching is that of capturing the fish heavy with spawn, about settling on their spawning grounds, thereby destroying not alone the parent fish, which at this time are quite unfit for food, but the myriads of eggs which otherwise would have hatched out, and in time have become full-sized fish, affording sport to the angler and food for the million. The main safeguard against this poaching is plenty of water being in the river at the spawning season, as the poacher cannot work successfully in heavy water. It is at this season, too, that the water keepers or watchers should be most alert. It is difficult to catch poachers in the act. They usually work in gangs, and while two or three are sweeping the pools with their nets, others are placed on heights above the river commanding a good view of all approaches to it, so that they can give timely warning to the netters if they see any sign of impending danger. Should there be no appearance of a keeper or watcher the scouts remain perfectly still, but at the approach of an enemy they move quickly away ; this movement is taken up by all the others placed at distances along the banks, so that like a semaphore danger is signalled for miles in a few minutes.

At night the movements are made by lights. Water keepers should alter their appearance by a frequent change of the clothes they usually wear, so that they may not be recognised at a distance. A good preventive to poaching pools with nets is to place in the water concrete blocks, shaped like a pear, the small end up. As the surface of these are smooth, they afford no means of hauling them out by grappling with ropes. Very smooth boulders are also good, but they are not so easily placed in position as the concrete blocks, which can be made directly over the spot on a raft, and dropped down to the position desired.

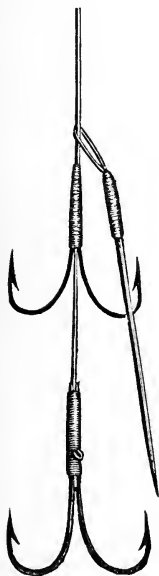
**Pocket or Portmanteau Rods.**—These rods are made so that they can be carried in a large pocket or stowed away in a portmanteau, and being composed of a number of short joints, they are very useful in travelling, as they take up little space.

**Pollen, The** (*Corregonus pollan*), a fish somewhat resembling the *salmonidæ*, but having a prolonged snout like the herring. They are called the fresh water herring, being about the same size, and are only to be found in Lough Neagh, in Ireland, although some writers affirm that they are identical with the gwiniad of Wales, and the powan of Loch Lomond. They are a delicate-flavoured fish, and when fresh caught are highly esteemed as food. But they won't keep for more than a day, and decompose very soon. From an angler's point of view they are useless, being only caught by nets. They spawn in December and January.

**Prawn, The** (*Palæmon senatus*) is a crustacean common on the British coasts; not so abundant as the shrimp, and, unlike it, is found in the vicinity of rocks at a little distance from the shore. It is highly esteemed for the

table, and is usually caught in traps similar to those used for lobster catching; also by what are called "putting" nets.

**Prawn Fishing for Salmon.**—The best size for bait is about two inches long. If possible, the prawns should be obtained fresh, and scalded for a few minutes in water



PRAWN TACKLE.



PRAWN TACKLE, BAITED.

containing a little salt and saltpetre. This will not only toughen them, but improve the colour. If fresh baits are not to be obtained, a supply of preserved ones may be

procured from the tackle makers. These have been preserved in glycerine, but as a rule are over boiled and rather large. The angler can preserve them himself by procuring them when an opportunity occurs, scalding them properly, and then dropping them into a bottle of glycerine. They will keep good for months. A favourite tackle is shown on preceding page. How to bait prawn tackle:—The point of the needle to be inserted in the tail and brought out at the middle of the breast, the point protruding about one-eighth of an inch. A small hook may be attached underneath the shank of the lowermost double hook and then drawn over the point and pulled up as far as it will go, and the tail made fast to the tackle by binding it with red silk or thread. Other tackles require a baiting needle, or consist of hooks to be thrust through the prawn. These are troublesome methods, but the angler can please himself; the object is to keep the prawn as natural looking as possible, and in as good a condition as will ensure it remaining securely attached to the tackle. The prawn may be baited either head down or tail down—the former for preference. The tackle is attached to an ordinary salmon casting line furnished with BB shot, more or less according to the strength of the water. The most agreeable and skilful style is to use the prawn exactly like a fly, only deeper in the water. A rod with upright rings is necessary, and the underhand style of casting to be preferred, as the bait is tender. It is cast out across the stream, and brought slowly round to the side upon which the angler stands, as nearly as possible in midwater. When a bite is felt, give a second or two, then raise the rod smartly. A rod set in mid stream, from a boat moored during lunch, is often successful, as salmon have taken the prawn when it has

been known to lie on the bottom of the river. In large and slow rivers where a boat is used, the plan is to place the rods—usually two—at right angles to the boat, which may be either anchored or held against the stream by the oars. Allow the bait to stream a few yards astern. In very sluggish water, floats are attached to the line about seven feet from the bait; the line is jammed to resist a pull, and the fish hooks itself. When it gives a good pull or two, lift the rod and play it. Swivels are not usually employed, except with a casting reel, when one or two are necessary to take the twist out of the line after each cast, and they are essential if trolling with the prawn is practised.

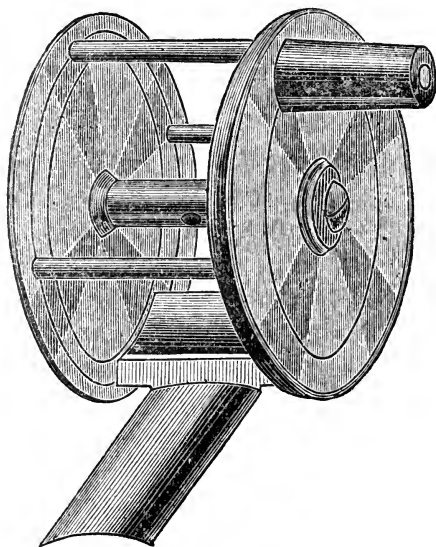
**Preserving Fish Baits**, such as minnows and other small fish, may be done by keeping them in salt and water, or salicylic acid and water; sugar will also answer for the purpose, or spirits of wine—they toughen in this latter. Oil will keep baits in good order for a length of time, if both are just raised to a boiling heat by immersing the vessel containing the oil and fish in boiling water for a few minutes, taking care not to go too far, or they will get tender.

**Pritt's "Yorkshire Trout Flies."**—This book may now be called a standard work and gives all the best dressings of trout flies used on the Wharfe, Ure, and other Yorkshire streams. It is beautifully illustrated with hand-coloured plates, and generally useful for Yorkshire stream fishing.

**Punt.**—A flat-bottomed boat used by the Thames anglers, and moored across the stream by means of poles thrust into the bed of the river.

**Reels or Winches.**—These necessary articles of equipment should be chosen with care, and as a good reel

will last a man a lifetime it is better to procure at first a really reliable one. A bad or cheap reel is a nuisance, and as they are now made to perfection there is no excuse for using an inferior article. The materials used in making fishing reels are gun metal, brass, ebonite, aluminium, and various kinds of hard wood. Metal and ebonite are principally used for trout and salmon reels, and wood for bottom

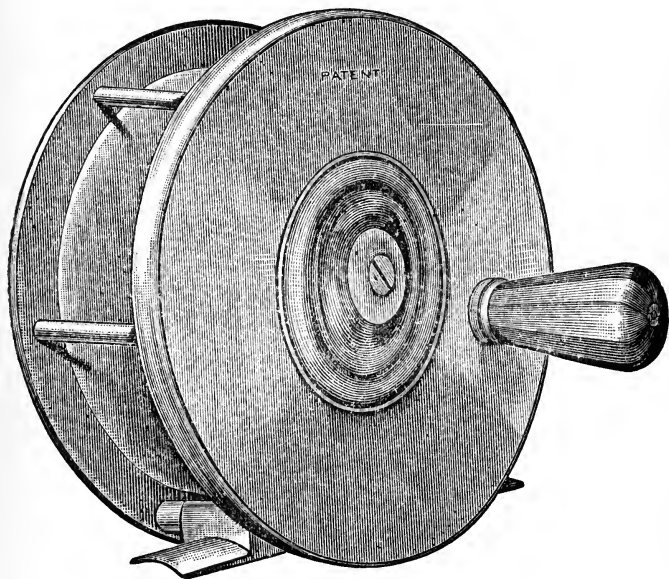


CHECK REEL, WITH REVOLVING PLATE.

or still water fishing. The ebonite, bound with German silver, forms a very light and serviceable reel, especially for using on a light trout rod. Reels are made in several designs, such as plain, check, revolving plate, multipliers, contracted, balance handle, and some with removable check. One of the latest styles of common reels is formed by striking out at one blow, from a single sheet of brass, the



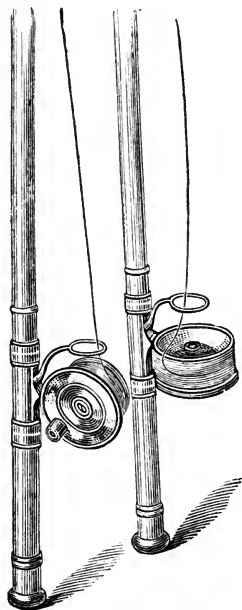
plate and sides, which are then turned up parallel to each other, the spindle inserted, and the handle riveted on, thus avoiding all screws and loose plates. The most serviceable reel, however, is the plain check winch, with the handle attached to revolving plate (see page 190). The angler has better command of his fish with this than with any other kind. Care should be taken to prevent sand or grit getting



THE "SUN AND PLANET" REEL.

in between the revolving plate and the side of reel, and the check should be so humoured as not to be too stiff nor yet too easy, and the sound made when using it should be soft—not harsh nor sharp. Now and then some fine oil should be rubbed over the working parts and then wiped off clean. This will keep them free from rust or verdigris, and

in good working order. There is a reel called the "Sun and Planet," which has some advantages. If the handle is caught by an obstruction, such as a loop of the line, or the watch chain, it will not prevent the line from running



THE "MALLOCH"  
CASTING REEL.

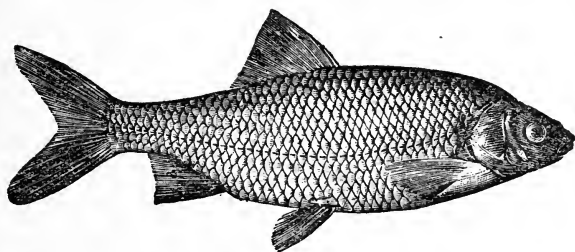
out. In playing a fish the hand need not be taken off the handle, and by using a slight pressure on it the line can be checked to any strain. The "Malloch" casting reel is used for spinning only, as it turns up and allows the line to run off speedily, so that a long cast can be made. The Nottingham reel, which is made of wood, has very few working parts, is simple, and also allows the line to run off with great speed and ease. These reels are used for bank fishing, and the speed of the revolving disc is controlled by the pressure of the finger acting as a brake. It requires some practice to work them properly. If the angler wishes to be particularly careful of his reel, he should protect it when not in use by encasing it in a solid leather pocket, made to fit accurately.

This will prevent it from receiving any injury from falls or knocks, and, if carried in the basket with the fish, keeps it from being soiled. All reels after use should be wiped clean and dry.

**Ripple.**—A ripple on the water is occasioned either by the wind blowing against the current or by the disturbing influence of a stream falling over or rushing through stones

or other obstructions. The ripple is of great assistance to the angler in successfully presenting his fly, as it prevents the fish from seeing him as plainly as they would do in calm water. Every advantage should be taken of a ripple to fish a pool, in which large fish generally lie, as they cannot be approached when the surface is calm. Fish after fish may be taken from a pool, if ruffled, without much change of ground. When the wind is blowing fitfully, and only occasionally throwing a ripple, do not cast when the surface of the water is smooth.

**Roach, The** (*Cyprinus rutilus*), is a handsome fish, inhabiting many of our deep still rivers, ponds, or lakes, is easily domesticated, and multiplies very fast. A few roach put into a pond will soon produce as many as the water is capable of sustaining. Roach are of slow growth. They are a gregarious fish, swimming in shoals. The



THE ROACH.

fins are red, the mouth like leather, no teeth, circle of the eye golden, scales regular, large, and easily detached. It is not much esteemed for the table on account of the multitude of bones which it contains. It gives fair sport to the angler, spawns about the end of May or beginning of June, and has been known to attain a weight of over three pounds

but this is very exceptional, the average being about one pound.

**Roach Fishing** is very good sport, especially from a boat on a pond or lake on a calm, warm, summer evening, at which time they take the fly greedily. The fly may be of any description, provided it is small, and the hook and gut fine; the latter must be strong, as a roach of a pound weight is a heavy drag on fine gut. They take the fly best when sunk and drawn towards the surface, where they are apt to follow it and hook themselves just as it leaves the water. Their mouths are so small that a disgorging is required to get the hook free, or it may be cut out with a knife; if forced or twisted with the finger it is apt to get broken. They should be landed with a net. For punt fishing, a nice handy twelve foot rod, a fine braided silk line, three yards of drawn gut, and a No. 5 or 6 crystal hook are most suitable. Roach are more commonly angled for with bait of some kind. A very convenient sort is paste, which can be made of flour damped and worked up with a little cotton wool. This may be dyed a red colour or not, according to fancy. Take a small bit about the size of a pea, and fasten it on the barb of a No. 5 or 6 crystal hook so as to cover it. Adjust the float (which should be a light one), so that the paste is just off the bottom. Keep the hand very steady, and the line taut as possible. As soon as the float denotes the slightest nibble, strike immediately, as they suck the paste off. Fishing with gentles is also a very common practice, using a small hook to hold a gentle or a size larger to hold two, which are put on together and fished in the eddies. In coloured water, a red worm is also a taking bait; and, as with paste strike at the slightest movement of the float. There

are several other ways of angling for this fish, such as by means of long lines let off down the stream with two or three droppers attached, baited with different lures, but there is not so much sport in these modes. The best of all is fly fishing, and next to it the paste. When roach will not take the one they will the other, and the same tackle, except the change from fly to bait hook, will suit both practices. With a horse hair casting line the sport is more exciting; but, of course, it takes longer to land, as they give good play. There is another method of angling for this fish practised in southern districts, a description of which may prove interesting. The rod used is from eighteen to twenty feet long, with no rings or reel fittings. The line, of single horse hair or finest drawn gut, is fastened to the top of the rod; the float should be as light as possible, and the hook No. 5 or 6 crystal. When a fish is hooked, the angler, who is generally seated on a box or basket (specially made for this style of fishing), disjoints his butt or middle piece, and plays the fish with the remainder of the rod. In this mode of fishing, which is known as the Lea style, anglers often get from ten to twenty pounds of roach in a day. Another method of roach fishing is with a No. 5 crystal hook, two or three yards of hair or drawn gut, a shot fixed fourteen inches from hook, and a drilled bullet above the small split shot (arranged so as not to allow the drilled bullet to run down on the hook). This is permitted to lie on the bottom, and you fish by feel. In a stream, of course the bullet rolls, and the best fish are caught this way. The bait is generally gentles or paste. In dead water the angler covers the gentles with ground bait, about the size of a large marble. The roach keep nibbling at the ground bait, and getting confident they

come to the gentles and take them readily. This is a very successful way to capture large roach, particularly where they are much angled for.

**Rod Boxes** or **Cases** are made of deal or other wood, for the reception of rods, reels, and other tackle; usually lined with green baize, with partitions for the various articles. It is better to have them provided with lock and key, and braced by two leather straps.

**Rod Brackets** or **Rests** may be made by anyone who can use a plane and centre bit. Procure two pieces of hard wood, which may be of any length from six inches to two feet, according to the number of rods a man possesses. The back, which hangs against the wall, should be four inches wide and one inch thick; to the bottom edge of this is screwed the other piece at right angles. This latter may be two and a-half inches to three inches wide and half an inch thick, and in it is bored a number of holes ranging from one and a half inches to half an inch in diameter, with half inch spaces between each hole. This shelf is covered on top side by a piece of indiarubber insertion cloth about one-eighth of an inch thick; it can be fastened by glue. Now make two cross cuts with a pen-knife in the cloth where it covers each hole. The rod pieces are thrust up singly by their smaller ends just past the ferrules, and the cloth grips them firm, allowing them to hang in a suitable manner, and prevents them getting a set.

**Rod Ferrules** are the metal fittings that hold the joints of a rod together. There are many kinds in use. The plain male and female ferrule is perhaps the best known and most generally used. There are others with lock fastenings, some with screws, and some with gibs. (See "Joints.")

**Rod Fittings** include winch rings, ferrules, rod rings and keepers, rod end rings, and butt caps and buttons.

**Rod Making** is a very interesting business or profession, and is now brought to great perfection. It is an advantage if the rod maker is somewhat of an angler; as that will materially assist his mechanical knowledge, for theory and practice go hand in hand. There are four principles in rod making which are essential—strength, lightness, elasticity, and balance—and when these are combined the rod must be perfect. There are so many different tastes to be catered for that the rod maker must of necessity have a large stock—all sorts, shapes, and sizes. The woods used in rod making are ash, hickory, greenheart, lancewood, blue mahoe, and washaba, besides several sorts of canes and bamboos. These woods, with the exception of ash, are mostly the growths of foreign countries. They come in balks or logs, and are then sawn up into planks nine inches by three—a good useful length is six feet six inches—which serve to work up into rods nine, twelve, fifteen, and eighteen feet long; the six inches over allows for end shakes and helps to work out twists, &c. These planks should be permitted to season in this state for two years at least—longer if possible. Then they may be sawn up into scantlings suitable for butts, middles, and top pieces. The seasoning should be carried on in a dry, airy shed or loft, where neither sun nor damp can penetrate. Greenheart, which is the most universally-used wood now for rods, especially for fly rods, is of so oily and dense a nature that it requires several years' seasoning before it is fit for use. All the woods chosen should be of perfectly

straight grain, free from sapwood, shakes, and knots. The choice pieces should be laid aside for tops, the next pick for middle pieces, and the worst for butts—bearing in mind that there should be no bad stuff used for any portion of a rod. Some rods are made in two pieces, and are nice to use, but rather awkward in length for carrying. The generality of rods are made in three pieces. The standard length of a trout rod is from eleven to twelve feet; that for salmon seventeen to eighteen feet. Of course, many trout rods are made in lengths of eight, nine, ten, and ten and a-half feet for single hand, and from thirteen to sixteen feet for double hand. Salmon rods, more particularly all-greenheart ones, are often only sixteen feet long, but in some cases go up to twenty feet. The woods may be used in combination, for instance—ash butt, hickory middle piece, and either a lancewood or greenheart top; or hickory butt and middle, greenheart or washaba (*q.v.*) for top; or they may be all lancewood or all greenheart. There is no doubt that the latter is the best known wood of the present day of which to make a fly rod, possessing as it does great “life,” marvellous elasticity, the hardness of steel, and a wonderful capability of retaining its original straightness, provided the wood is properly seasoned and the rod gets anything like fair play in its care by the angler. It is weighty, but this fault can be counteracted by working it comparatively fine. The butt is generally made first, and is reduced by the plane to nearly the size required at the handle, which we will assume to be three-quarters of an inch in diameter. It may be put in the lathe and the handle turned to exact size, with the quick taper now generally made. The rest of the butt is planed down first to an octagon shape, the better to keep



it perfectly round when finished. It should possess a gradual taper from the handle or gripping position to where the ferrule is fitted. The handle should be from fourteen to eighteen inches long, according to the length of rod and style required. The top of the butt may be made to suit a ferrule twelve-sixteenths in diameter. Some makers can finish their rods well with the plane; others with files and scraping. It is of good service to the rod maker, in planing up his pieces, if he has on the bench a piece of wood with a V-shaped groove running up it, in which he can place the piece of the rod that he is planing. The butt may now have the ferrule fitted and the joint bored, if for a taper joint, which in all high class rods is double brazed (*q.v.*); if it is for a plain spliced joint, it is sloped; if for the flexible joint, it is fitted with the pin used in this joint (*q.v.*); in either case it must be made to suit the counter or joint of the middle piece, which may next be proceeded with. This piece is planed down in the same way as the butt—octagon first and then circular, with a slight taper—until it is the size to suit the counter at the large end and the ferrule at the small end. Then the top piece is proceeded with, and when reduced to what is considered the proper size the rod may be put together. The joints, though nearly in their places, are not yet driven home, as some manipulation is necessary before the rod is considered satisfactory in its feel; the brasses may have to be turned several times on their bearings before the right “feel” is obtained. To judge this, take the rod in the right hand, at the place where it is intended to be held, press the point against the ceiling or a wall, and note whether the curve the rod takes be regular or not; any stiff or straight portions that refuse to curve symmetrically may be worked

down by plane or file until they do. Perhaps a better plan is to fasten one end of a line to the extreme point, and either have a person to hold the other end or fasten it to a nail in the floor; then bend the rod as if a heavy fish was on it, and observe the curve carefully; it should be a graceful one from butt to tip. The reel fittings now may be temporarily fixed, also the butt cap, either with or without a spike; and, having attached the reel, with the line on, get the balance (*q.v.*) of the rod. This in a twelve foot rod should be about two feet above the reel, which latter is supposed to be as close to the butt end as the fittings will permit. When all these particulars have been carried out, the counters should be carefully marked in their places, and that portion of the wood upon which they have been fitted should have a thin coating of fish glue, or Russian cement as it is sometimes called, a few fibres of tow being twisted over the surface of the glue. The counters are now driven home to their places, taking care in the operation not to bruise the brasses or injure them in any way. These counters are now drilled, and brass pins with counter-sunk heads driven right through; the pins neatly hammered and filed off smooth, so as to render them invisible or nearly so. Some makers fit their joints very accurately, and do not use pins; but in time the wood shrinks a little, and unless pinned they are liable to get loose and give bother. After the rod is jointed it may be sand-papered, when it is ready for the stain, which may be according to fancy—generally of a dark colour—recipes for which are given under the heading “Stains.” It is next allowed to dry, washed to remove loose particles of the dye, and dried again by air alone. It is then French polished, after being slightly sand-papered and boned to lay the fibre

which has started in the dyeing process. Then it is taken in the hand loosely, when it will find its natural lean—its proper feel, so to speak. When this is obtained, and after the varnish or polish is thoroughly hard, the ferrules are fitted with fish glue and tow same as the counters, and the reel fittings also may be fixed. The under side is then marked for the rings; these may be either the ordinary brass rings fitted with keepers, or the upright solid or snake rings, according to the style of rod or the fancy of the purchaser, who very often has his own ideas and insists upon having them carried out. It is a safe plan to have good-sized rings on in any case; there is less chance of the line getting “kinked” on them when running out. Most makers varnish their rods; some with spirit varnish, others with copal. Anglers who are particular prefer their rods without varnish, and have them French polished instead (an occasional rub afterwards with linseed oil keeps the wet out of the wood); as they consider, and with some truth, that the flash of a highly-varnished rod is very apt to scare the fish. The tying of the rings, which in good rods is made with well-waxed silk thread, must be varnished thoroughly, to prevent the thread chafing, cutting, or becoming loose. If the joint of the rod is the ordinary ferrule and counter, it is usual to have two small bent wires, called catches, fastened on each joint about two inches apart and facing each other, which may be lashed together by a thread to prevent the possibility of any of the joints withdrawing when in the act of casting. A salmon rod is made in much the same manner, but being double-handed the balance is different, and usually the butt has no quick taper at the handle and is stouter accordingly, as it has a much heavier line to work. Bottom fishing rods are made stouter and shorter than fly rods. Spinning and

trolling rods are longer and stiffer. A fly rod, if well made, should not show much depression of the point when held horizontally. It ought to be as nearly straight as possible, because, in striking a fish, its action should correspond at once to that of the wrist. If it depresses much it is apt to be slow, too slow for hooking the nimble trout. The manufacture of split cane rods was originally an English idea, but it was left to our American cousins to work this out to perfection, and they still claim that they alone can build these rods in the proper style. However, good rods are now built in England, and the great matter is to procure proper canes, and use no trash. These are called Calcutta bamboos. There are two sorts, the "male" and the "female." The former selected makes the more perfect split rod, and is rent or sawn into sections longitudinally, the soft inside wood is taken away, and the outside silicious barked sections are cemented up again into hexagonal shape. Some of these rods have a steel wire running up the centre. A cane built rod twelve feet long weighs from twelve ounces to fourteen ounces only, but at the same time is strong and pliable. These rods will not bear as rough usage as a solid wood rod, and are so expensive owing to the difficulty of their manufacture and the high class skill required to get them up properly, that they are only to be found in the hands of the more wealthy. An interesting and detailed account of split cane rods is given by Dr. Henshall in his "Book of the Black Bass." The ordinary Indian or Japanese canes are chosen for rods according to size, and jointed in their natural state, care being taken not to rasp the joints of the canes down, and thereby weaken them. In all rods stress should be laid upon the balance, when taken in the hand. The difference between a well-

balanced rod and an imperfect one is about the same as between a gun that comes up to the shoulder perfectly and one that does not; with the latter a good shot may prove a "duffer," with the former a poor shot may carry off the prize in a "hot corner." If a rod is not balanced to suit a man the arm soon tires, and when this takes place the angler wearies, and when he wearies he ceases to enjoy his sport; therefore, the purchaser should carefully choose a rod suitable to his strength of arm and capability, when pleasure and profit will be the result. Some fly rods have hollow butts to carry spare tops, but these are objectionable and have not the play of a solid built rod, and of necessity are very large in the handle. The Castleconnell rods are small in the handle and taper slightly right away from the butt. These rods are top heavy, but are powerful, and lift a long line with remarkable ease and give good command when playing a strong fish.

**Rod Straps** are simple but very useful articles, for strapping together a bundle of rods, nets, &c. They should be made of nice pliable leather, with buckles and tongues.

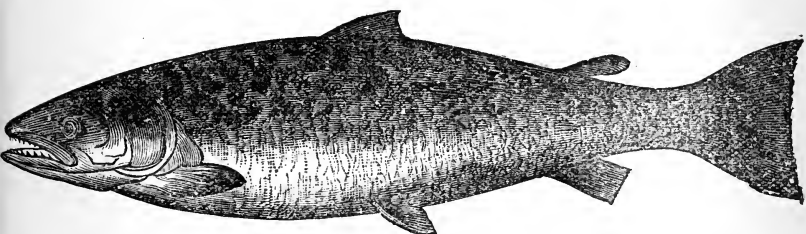
**Rudd** (*Leuciscus erythrophthalmus*) are found in many of the rivers and lakes of the United Kingdom. They are supposed to be a distinct breed, although some affirm they are the produce of the bream and the roach. They live on insects, and may be angled for same as the roach, with paste, gentles, or small red worms. They seldom attain more than one pound in weight. The tackle used should be strong and fine. When fishing for them with the artificial fly, allow it to sink, rest a little, and then draw towards the surface. The rudd swim in shoals, spawn in April and May, and are considered better fish for the table than roach. The name is a corruption of "red eye," from

the peculiar bright crimson-yellowish colour of the iris. They are said to be more prolific than the roach.

**Ruffe, The, or Pope** (*Gymnocephalus cernua*).—A little fish found in a few of the rivers of England. It somewhat resembles the perch: in form more slender, rarely exceeding the length of six inches. The teeth are small and disposed in rows; the colour of the back and sides a dusky olive green, dotted with black spots; the belly yellow; dorsal fin partly spinous and partly soft; and the body is covered with rough, closely-built scales. Spawns in April, and is gregarious. Ruffe fishing is somewhat similar to perch fishing. The best lure is a small, well-scoured, red worm, baited on a No. 6 round bend or Limerick hook, with a quill float attached. The bait should touch the bottom. Strike at once, the moment the bite is felt. These fish bite greedily, nearly always pouching the bait, so that the disgorging is in constant requisition or the hook cut out with the knife. Ruffe love quiet, deep pools with muddy bottoms, where the stream runs slowly. They are also to be found in canals and ponds, give fair sport to the young angler, and when in the taking humour can be angled for with very coarse tackle. They form suitable live baits for pike fishing, their colour being peculiarly attractive.

**Salmon** (*Salmo salar*) is by far the most important of all the fresh water fishes, both as to sport and commercial value. It possesses an exceedingly handsome shape. The head is small; mouth well furnished with teeth; the lateral line is almost straight; the back and belly of nearly equal convexity; and scales small. The colour of the back when in season is purplish black, changing to silver grey on the sides and white on the belly. The male fish is furnished

with irregular dark copper-coloured spots on either side of the lateral line. Salmon grow to a large size, having been caught above eighty pounds weight. Fish weighing forty and forty-five pounds are by no means rare, but the average weight is twenty-five pounds. Salmon feed on small fish, shell fish, molluscs, and insects, and not only digest their food rapidly, but eject it so quickly when caught either by rod or net, that on *post mortem* examination their stomachs are always found empty. This fact has led to the popular fallacy that salmon do not feed in the rivers. The idea is absurd ; if they do not eat, why do they take



THE SALMON.

worm, minnow, prawn, shrimp, to say nothing of the natural and artificial fly ? It may be noted here that the common trout often ejects partly-digested food after it has been safe in the landing net. The fry are hatched in the spring, the parents having ascended the rivers the previous autumn and deposited their spawn in suitable gravel furrows or beds chosen out by themselves. The young make their appearance in about twenty weeks, and are about five-eighths of an inch long—mostly head and eyes, the body comparatively small. Attached to this latter is the yolk sac, which nourishes the little creatures for five or six weeks. At this period of their existence they are liable to be

injured in many ways, and to become the prey of countless enemies among the fish and fowl tribe. They are now called parr, and are about two inches long, the body furnished with transverse bars. By the end of May they are from three to four inches long, feed greedily on every living thing which may be of a size to swallow, and are amongst the greatest pests that the trout fisher encounters—rising at his fly, hooking themselves, and having to be thrown back again time after time, until the angler has to give up in disgust. By autumn they have reached a length of five or six inches, and remaining in the river all winter, by the following April assume a more elegant form and brighter colour, and are called smolts. Until they have made this change of costume they would not be able to live in the salt water. They now, as smolts, collect in shoals of from fifty to sixty, and, assisted by the spring floods, make for the sea. They generally rest awhile in the brackish water at the mouth of the river, in order that they may acclimatise themselves (so to speak); after which they depart into the salt water, where they, finding nutritive and richer food, soon arrive at a very respectable size and weight. In July and August they commence to return to their native rivers, and are now known as grilse or peel. They in turn deposit their spawn, return in the following spring to the sea, and are subsequently known as salmon. The tails get more of a square form, their scales hard and not so easily detached as when in the grilse state, and they have increased very much in weight. After spawning, the fish get very thin and weak, and in this condition are totally unfit for food, and are known as “kelts” or “spent” fish. They drop down to deep, quiet portions of the river, remaining until their strength begins to return, gradually making their way to



the sea, and feeding voraciously on all that comes in their way, even devouring their own species. At each return to and from the sea, salmon remain for a time in the brackish water, until they acclimatise themselves. Some of the smolts do not go to the sea the first season, but remain in the river, and do not increase much in size. Many run up the rivers in January, February, and March, and it has been found that they have not undergone the usual change to the "grilse" state, but are veritable salmon in colour and form, attaining the weight of nine or ten pounds, affording an early supply for the tables of the more wealthy. These fish ascend the higher tributaries of the stream, spawn soon in the autumn, and perpetuate the breed of early running salmon. The muscular power of the salmon is great; in their passage up the rivers, when they arrive at some of the many weirs or obstructions which bar their progress, they will leap out of the water to the height of several feet in their endeavour to surmount the obstacles. It is manifestly obvious that to increase the value of a salmon river every facility in the way of "gaps," "ladders," &c., should be provided, in order that the fish may get up the stream with as little trouble as possible. It would be difficult to arrive at anything like the value of the salmon fisheries of Great Britain and Ireland, but it may be reckoned by hundreds of thousands of pounds. For some years past salmon were getting rather scarce; but now that fishery owners recognise and use the means of artificially supplying young fish to the rivers there is a steady increase in the numbers. The last month in the year is about the only time when salmon may not be angled for with rod and line in one or other of the rivers of the country. In the north of Scotland many of the rivers open on New Year's

Day, and good fresh fish are caught, even when the ice has to be broken on the pools ere the angler can cast his fly. The salmon of North America is somewhat different from the British species. It is not of so deep a red in the flesh, and the flavour is not so rich. Nevertheless, it is a fine fish, and is so plentiful in many of the rivers there that establishments have been raised on the banks to utilise, by canning, the countless myriads available, and many thousands of tons are preserved annually and exported over the globe. These American fish are very active. They ascend the rivers for hundreds of miles, and are so plentiful as to actually impede navigation. They are caught by every conceivable means—nets, spears, boxes, and wheels made to revolve with floats, which lift the fish and deposit them in boats made for the purpose.

**Salmon Bags.**—The superior ones are generally made of brown tanned canvas, waterproof, with extra pockets for book, flask, &c. They are used for carrying salmon, sea trout, pike, or any large fish. (See "Bags.")

**Salmon Fishing** is the grandest of all sport. No fish that swims makes so determined a fight for liberty as the salmon, and, for its size, has so powerful a command over its muscles. It requires strength, energy, patience, and ability to succeed in its capture. Trout are more wary—require greater skill and judgment in their pursuit and capture—but they have not the power of the salmon. It is a different style of angling from that of trout. The rod is much longer and heavier, the line likewise, and everything connected with it is of the strongest and most perfect in its working. The favourite lure is the fly, and if this is large, it is generally considered that one is sufficient. If the flies are medium or small-sized, two are sometimes

attached to the cast—one at the point of the casting line and one about three feet higher up. The salmon fly, having a loop attached to it, is easily fastened by any of the various knots to the casting line; care should be taken to have this latter well damped and pliable before making the attachment. Many anglers keep their traces or casting lines in a damp cloth for hours before proceeding to use them, as gut is too brittle when in a dry state to stand the wear and tear of a run with a good fighting fish. The rod is usually from seventeen to eighteen feet long; it is used with both hands, one above the reel or winch, and one below. The position of the hands is varied with the style of casting. If the angler is using the left hand casting, that is bringing the line round over the left shoulder, the left hand is uppermost; if the right hand casting is used the right hand is uppermost. However, this need not be made a hard and fast rule, as the angler will have to shift his hands from time to time, in order that he may relieve the strain on the muscles of his back and arms. In casting, it should be done across, and if anything rather down-stream, allowing the fly or flies to sink well, and as little of the main line as possible to be dragged either through the water or on the surface. The rod being almost at right angles to the body, the current sweeps the flies round, and at the same time the rod is raised up stream, and worked with a long jigging motion, so as to impart liveliness to the fly, which continues to come round until it is close to the bank upon which the angler is standing, with the rod point over the shoulder, when the cast may again be made about one yard lower down. At the finish of the draw, be careful to have sufficient command over the rod to strike if a fish should make a

rise, for if the fly is too close, the line slack, and the rod behind the shoulder, it would be almost impossible to make a successful hooking of the fish in this position. In striking a salmon, a good stiff long draw is sufficient. As a rule the touch is felt as he closes his mouth on the fly, and the hooking is generally pretty safe. Watch carefully when the fly, after first alighting on the water, is being brought round, as this is a very likely time for a fish to make a dart at it, being enticingly offered and moving in a natural manner, neither too fast nor too slow, the water close to the bank running as a rule more sluggish than in the centre of the current. Bear in mind when a salmon is hooked to be tender with him at first. He will soon find out that his liberty is threatened without this fact being brought too forcibly before him, by pulling or hauling. Allow him time; if he wants line let him have it, but always reel up when he slacks his speed of running, and keep abreast of him by walking either up or down the bank. If he springs out of the water, as he may do several times, lower the rod when he is falling back; this will prevent him hitting the line with his tail, which he is trying to do. There are several modes of casting, such as "scotching" or "cutting." These will be learnt in due time by the angler, when he gets into positions where the ordinary style of casting will not suit; but he will require to see them done—no description will be of use. Many anglers invent styles of casting for themselves. As a rule, when a man goes salmon fishing he is generally attended by some one who understands all about the sport, and from whom he may get information and instruction if he takes the right way of asking for it. When the fish is well played and begins to show signs of giving up, the butt may then be given pretty heavy, and

the fish towed in to a suitable spot, when he can be gaffed. Occasionally, at the last, he begins to churn and flounder on the top of the water, and in this way manages to get free. It is difficult to give any instruction about what should be done when this takes place. If he would sink under the surface; drop point of rod *gradually* and allow him to do so; if he will not, keep the line firm, and allow him to waste his energies. Do not pull in hard, as, when in the "flurry," as it is called, the buoyancy of the fish is not great, and, consequently, too heavy a weight would be on the hook and casting line; whereas, if he is submerged totally, the weight is comparatively light. If a fish sulks, goes to the bottom, and looks as if he determined to stay there, you must only have patience. Keep a steady stiff line on him, and in the long run he will yield; but it is very tiresome on the arms. Sometimes the attendant has to keep throwing in stones to get the fish to move, and when he does, it is with a very sudden, quick rush, so be on the watch to see that the line is free from any catch. Occasionally a salmon, especially a fresh run one, shoots along the surface, not unlike a water bird. He runs line out, and suddenly turns and rushes right back. When this takes place, lose no time in running back too, if the ground permits, reeling up at same time, else there will be a lot of slack line, *which in all cases is dangerous*. Salmon may also be angled for with spoons, by trolling, with both live and artificial minnows, as well as by worms or bait. All of these methods are treated under their separate headings. The play nearly in all cases is the same, no matter what the lure is. It is essential to keep a firm line all the time, and to be both *cool and vigilant*. It would take up too much space

to enter into a detailed account of all the vagaries and eccentricities of the fish, both before and after hooking ; most of these will come before the salmon angler in the pursuit of his sport. How, when weather and water are perfect, and the river full of fish, they will steadfastly refuse to take any lure, no matter how temptingly displayed. Again, when water is very low and weather bright, and the angler, following the correct rule, will put up his smallest fly without receiving any response, he alters his tactics and putting on his cast a fly almost as large and brightly coloured as a canary will succeed in hooking fish after fish. Often the fly has to be discarded and the spoon put up, and this again to give way to the minnow, the par-tail, or the tail of an eel (the latter a very taking bait in the evening on many salmon rivers in the south of Ireland), and after all to find the only successful lure would be a worm, or a bunch of these reptiles. Therefore the angler should never despair, but keep both his brain and his body actively employed. Try one thing after another. It is weary work, but at the first mad rush of a lively "springer," or the determined pull of a lusty summer fish, all the weariness will fade like "snow before the sun." Then begins a stirring fight. The fear that the fish is not well hooked—the hope that that spring into the air was the last—the momentary cessation of the beating of the heart as the line feels slack, to be sent throbbing again by the certainty that all is still right—then the anxiety about the bringing in and landing, and, to crown all, the exultation and the pride when the white gleaming sides of the fish lie high and dry on the grassy bank—these give a zest to this sport that makes all others tame beside it. For more detailed accounts

of salmon angling let the reader consult Francis, Stoddart, Colquhoun, and Day.

**Salmon Flies.**—It would have a tendency to puzzle the young angler were an exhaustive list of these flies to be noted down. Should he not be satisfied with the ones mentioned herewith, let him consult "A Book on Angling," by Francis Francis, and in it he will find a long array. The range is a very wide one, and to possess one-third of it



SALMON FLIES.

would entail the ownership of a long purse and a portmanteau to carry them. There are several very well known standard flies, nearly always dressed in a similar style; they are safe ones to have, and are given in detail. It is wise, however, to have these patterns, or indeed any patterns, dressed on various sizes of hooks, as sometimes a small fly will be taken by the fish when a large one of the same dressing would not be looked at, and *vice versa*. It is also well to have a selection showing a decided contrast, as when a sombre-coloured fly is of no use, a very

gaudy one may prove serviceable. When starting on a salmon angling excursion consult a well-known fly dresser as to the flies suitable for the particular district about to be visited, and should the angler meet with another fisher who is having good sport, let him procure from him a pattern and send it to his fly dresser to have a few made exactly the same. It is of no use getting too many, as what will succeed well one week may not be of any use the next. The flies should be dressed on the "Dublin-Limerick" shaped hooks, and see that they are well tempered and perfect, as it is most annoying, after a prolonged tussle with a good and game fish, to lose him at the last, by either the hook drawing out or breaking off short.

**JOCK SCOTT**—*tag*, silver twist and golden floss; *tail*, one topping and one Indian crow feather; *body*, in two joints, gold-coloured floss the lowest, and black floss the upper; from the joint are tied two or three toucan points, and over the butts of them, at the joint, two turns of black ostrich herl; silver twist and a black hackle over the joint, and speckled gallina at shoulder; *wing*, mixed, a white turkey's slip in the middle, fibres of bustard, pintail, teal, brown mallard, and yellow, red, and green parrot; one topping over all; blue macaw horns; *cheeks*, kingfisher or blue chatterer; *sides*, jungle fowl.

**BLACK AND GOLD**—*tag*, silver twist; one topping and one Indian crow, with black ostrich herl butt; two joints, lowermost one gold tinsel ribbed with silver twist, black silk ribbed with silver on upper joint; two Indian crow feathers springing from butt of ostrich herl between joints; *hackle*, claret over the black, golden olive and jay hackle over at shoulder; *wing*, same as Jock Scott, but with jungle cock cheeks. This fly is considered by many to be an improvement on Jock Scott.

**SILVER DOCTOR**—*tag*, silver twist and yellow floss; *tail*, golden pheasant topping; *butt*, red wool; *body*, flat silver tinsel, ribbed with fine silver oval; light blue hackle and gallina at shoulder; *wings*, golden pheasant tail, bustard, tippet, pintail, wood duck, yellow, red, and blue swan; jungle cock cheeks, mallard topping over; blue macaw horns; *head*, red wool.

**GOLDEN PARSON**—*tag*, silver tinsel and mauve floss; *tail*, two toppings, a few sprigs of ruff feather and a kingfisher; *body*, two turns of golden floss silk, then golden pig's wool, merging into orange; golden orange



hackle over wool, red orange hackle over that, and two or three more toppings, tied in at the breast instead of shoulder hackle; *wings*, a tippet or ruff feather, with a cock of the rock (not the squared feathers) on either side and one above; strips of pintail on either side, and as many golden pheasant toppings as can be piled on—seven or eight.

**THE BUTCHER**—*tag*, gold twist and dark orange floss; *tail*, one topping; *butt*, black ostrich herl; *body*, two or three turns of claret, ditto of medium blue, ditto of red, and the rest of dark blue pig's wool; broad silver twist; medium red claret hackle; gallina on shoulder; under wing a golden pheasant tippet and rump feather, over them strips of brown mallard, bustard, peacock, wood duck, and blue and yellow swan; black head.

**DURHAM RANGER**—*tag*, silver tinsel and gold floss; *tail*, one topping and Indian crow; *butt*, two turns of black herl; *body*, two turns light orange floss, then two of dark orange, then claret, and black pig's wool respectively; black wool to be picked out at breast; over the whole of the wool a coch-y-bondu hackle (red with black centre) stained a bright orange, two turns black hackle over it, and a light blue hackle at the shoulder; *wing*, a pair of largish jungle cock in centre, double golden pheasant tippet on either side, one topping over all; blue macaw ribs; and a kingfisher feather on either cheek.

**THE PRIEST**—*tag*, gold twist and dark blue floss; *tail*, a topping and pale red ibis or flamingo; *butt*, black ostrich; *body*, three turns orange floss, the rest dirty olive brown mohair, gold tinsel, and silver twist; *hackle*, golden olive; medium blue at shoulders; *wing*, dark turkey or cock pheasant tail, over that fibres of bustard and bright bustard, brown mallard, and a plentiful mixture of green swan sprigs; *head*, red.

**ORANGE AND GROUSE**—*tag*, silver tinsel; *tail*, a topping and kingfisher feather; *butt*, black ostrich; *body*, three turns of puce or lake floss, the rest of light orange floss, silver tinsel; *hackle*, largish grouse, trimmed on breast, not on back; three or four toppings over it for wings; blue jay at shoulder; blue macaw ribs; and black head. The grouse fibres help wings.

**THE CHILDERS**—*tag*, silver twist and light blue silk; *tail*, a topping with strands of red macaw, powdered blue macaw, and pintail; *butt*, black herl; *body*, two turns of light yellow silk continuing with light yellow seal's fur, leaving one-fifth at the shoulder for scarlet seal's fur, ribbed silver lace and silver tinsel; *hackle*, a white furnace hackle dyed light yellow; *throat*, a scarlet hackle and light widgeon; *wings*, golden pheasant tippet and tail, turkey, silver pheasant, pintail, summer

duck, bustard, powdered blue macaw, parrot, red macaw, and gallina, with two strips of mallard above and a topping ; *horns*, blue macaw ; *cheeks*, chatterer ; *head*, black herl.

THE POPHAM—*tag*, gold twist ; *tail*, a topping and Indian crow ; *butt*, black herl ; *body*, in three equal sections butted with black herl—the first dark orange silk ribbed with fine gold tinsel having Indian crow above and below, the second or middle joint yellow silk with similar ribbing and crow's feathers as before, the third light blue silk and silver ribbing with the Indian crow repeated ; *hackle*, jay at the throat only ; *wings*, tippet, teal, gallina, golden pheasant tail, parrot, light brown mottled turkey, bustard, red macaw, yellow macaw (swan dyed yellow instead of yellow macaw for large sizes), with two strips of mallard above, and a topping ; *cheeks*, chatterer ; *horns*, blue macaw ; *head*, black herl.

THE THUNDER AND LIGHTNING—*tag*, gold twist and yellow silk ; *tail*, a topping ; *butt*, black herl ; *body*, black silk, ribbed gold tinsel ; *hackle*, from first turn of tinsel, orange ; *throat*, jay ; *wings*, mallard, in strips with a topping ; *sides*, jungle fowl ; *horns*, blue macaw ; *head*, black herl.

THE SILVER GREY—*tag*, silver twist and yellow silk ; *tail*, a topping, unbarred summer duck, and two strands of blue macaw ; *butt*, black herl ; *body*, silver tinsel (flat) ribbed with silver tinsel (oval) ; *hackle*, from first turn of ribs, a silver-white coch-y-bondu ; *throat*, light widgeon ; *wings*, silver pheasant, bustard, golden pheasant tail, pintail, powdered blue macaw, gallina, swan dyed yellow, two strips mallard above and a topping ; *sides*, jungle fowl ; *horns*, blue macaw ; *head*, black Berlin wool.

THE FIERY BROWN—*tag*, gold twist and light orange silk ; *tail*, a topping ; *body*, fiery brown seal's fur, ribbed gold tinsel ; *hackle*, from first turn of tinsel, fiery brown ; *wings*, tippet strands between broad strips of mallard ; *horns*, blue macaw ; *head*, black herl.

THE KATE—*tag*, silver tinsel and light yellow floss ; *tail*, a topping with short kingfisher feather ; *body*, ruby floss, two or three turns, and darkish red pig's wool picked out at breast ; orange hackle at shoulder, silver twist ; light mixed wing, tippet sprigs, black partridge (or pin-tail, if the fibres be not long enough), bustard, wood duck, mallard, blue, red, green, and yellow sprigs, one topping over all, jungle cock at shoulders, blue macaw ribs ; black head.

THE MAJOR—*tag*, silver twist and ruby floss ; *tail*, fibres of bustard hackle, tippet and a topping ; *body*, composite, viz., two turns of medium blue, ditto of dark orange, about four or five of bright claret,

and two more of blue pig's wool, over this silver tinsel and gold twist side by side ; a red claret hackle, commencing from the orange wool ; the blue wool picked out in longish fibres at the shoulder, over this a bustard hackle, then the wing, and over that a yellow hackle ; the wing is composed of a white ribbed snipe's feather, with longish tippet on either side, over this bustard and gold pheasant tail in strips, with red, blue, and greenish-yellow fibres, and over all topping ; black head.

**THE DUN WING**—*tail*, one topping and sprigs of tippet ; *body*, light orange, red-claret, darkish blue and black pig's wool in about equal portions merging into each other ; broadish silver tinsel ; black hackle down to the red wool, a few fibres of the blue wool picked out at breast ; *wings*, two strips from the dun brown feather sometimes found in the tail of a turkey.

**THE CANDLESTICK MAKER**—*body*, lower half black silk, upper black pig's wool, very bushy towards the shoulder and picked out at the breast ; *hackle*, golden olive, with claret at the shoulder ; broad silver tinsel over ; *tail*, scarlet ibis and woodcock ; *wing*, three or four toppings, with doubled jungle cock on either side.

**THE SILVER WILKINSON**—*tag*, gold twist ; *tail*, golden pheasant topping ; *butt*, scarlet wool ; *body*, silver tinsel, ribbed with gold twist ; *hackle*, pale blue run down body ; *throat*, jay ; *wings*, fibres of golden pheasant tail, bustard, widgeon, golden pheasant tippet, dyed red swan, topping over all ; *horns*, blue macaw ; *head*, scarlet wool,

**THE LUPUS**—*tag*, gold twist and blue floss ; *tail*, one topping, two Indian crow, and one wood duck barred feather ; *butt*, green peacock's herl ; *body*, oval silver with gold twist ; pale claret body hackles ; dark claret shoulder hackles, with blue jay over ; *wings*, green peacock, two Amherst pheasant toppings, slips of bustard and jungle cock ; *cheeks*, blue chatterer ; *ribs*, macaw, blue and red. This has been successful in the late season, especially in heavy water.

**LORD RANDOLPH**—*tag*, silver twist and pale blue floss ; *tail*, one topping and two Indian crows ; *butt*, black ostrich herl ; *body*, gold tinsel, ribbed with silver twist ; golden hackle over the body ; *shoulder*, golden olive, with blue hackle over ; *wings*, nine or ten toppings ; blue chatterer cheeks and macaw ribs. This fly has been very successful, and is intended to imitate a shrimp.

**THE BLUE DOCTOR**—*tag*, three or four turns of fine silver twist and two or three turns of yellow floss silk ; *tail*, golden pheasant topping and a few fibres of golden pheasant tippet ; *butt*, a turn or two of scarlet crewel ; *body*, pale blue floss silk, ribbed with silver tinsel and blue hackles wound by the side of tinsel from tail to head, blue jay's feather

at shoulder (in large flies the tinsel may be rendered more conspicuous by the addition of silver twist wound on by the side of the silver tinsel); the wing is mixed, containing fibres of bustard, turkey, golden pheasant tail and tippet, mallard, claret, blue, and yellow fibres of dyed swan feather; jungle cock neck feather at each side of wing as cheeks; also fibres of blue and buff macaw as feelers, and golden pheasant topping over all; *head*, scarlet crewel.

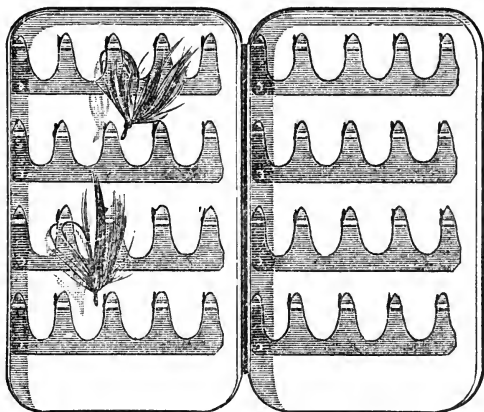
**THE BLACK DOCTOR**—*tag*, three or four turns of silver tinsel and two turns of yellow floss silk; *tail*, golden pheasant topping and very small jungle fowl feather; *butt*, a turn of scarlet crewel; *body*, black floss silk, ribbed with silver tinsel and black hackle wound by the side of the tinsel from tail to head, blue jay's feather at shoulder; the wing is mixed, containing fibres of bustard, turkey, golden pheasant tail and tippet, mallard, claret, blue and yellow fibres of dyed swan feathers; jungle cock neck feather at each side of wing as cheeks; also fibres of blue and buff macaw as feelers, and golden pheasant topping over all; *head*, scarlet crewel.

**THE DUNKELD**—*tag*, three or four turns of fine silver oval thread and a turn or two of pale blue floss silk; *tail*, golden pheasant topping and a few fibres of American wood duck feather (not barred); *butt*, black ostrich herl; *body*, three turns of light orange floss silk, the rest same coloured seal's fur well teased out, ribbed with silver tinsel; *hackle*, light blue; *wings*, two strips of dark turkey with white tips, golden pheasant tail, peacock snow feather, dyed yellow, claret, and blue swan, a few fibres of American wood duck (barred feather); *horns*, blue and buff macaw; *head*, black wool.

**Salmon Fly Cases (Patent)** are useful receptacles for salmon flies, made of tin, in various sizes, japanned outside and white enamelled inside. It will be seen by referring to the illustration on the following page that the flies are held by means of German silver springs, which permit them to be put on or taken off with the greatest facility.

**Salmon Fly Making Materials** embrace feathers from the golden pheasant crest and tail, jungle cock neck, summer duck, bustard, mallard, jay, turkey, tucan, Indian crow, red ibis, kingfisher, blue chatterer, and many other foreign birds; also tail feathers from the blue and red

macaw, with silks of all shades (floss and twisted), gold and silver tinsels and threads, dyed hackles of different sizes, turkey, goose, and swan feathers dyed, likewise wax and varnish.



SALMON FLY CASE.

**Salmon Fly Making Tools** consist of table vice, small files, scissors, needles, and knife.

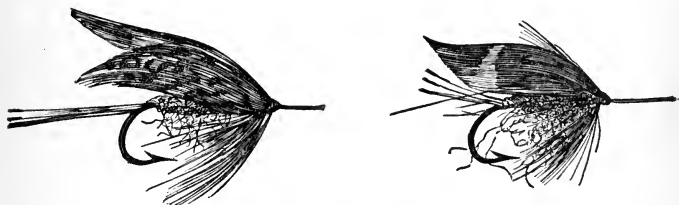
**Sandwich, The.**—Most anglers like to carry something wherewith to sustain the inner man; and as fish, especially trout, as a rule cease biting greedily between the hours of one and three o'clock, the angler should take this opportunity of eating his lunch. Sandwiches made in the usual manner, of slices of bread buttered and a layer of meat and mustard placed between them, wrapped up in paper, are generally very dry and tasteless articles of diet. The better plan is to provide oneself with a proper sandwich case, which can be had at almost any hardware or tackle shop; this can be easily carried in the pocket or pannier. In the bottom of this case place the

slices of meat—whether ham, beef, mutton, or fowl—by themselves ; above these put a sheet of paper, the bread cut in slices, a little pat of butter, some salt, and dry mustard ; then, with the aid of the pocket knife and a little water, a very fresh and palatable sandwich can be made up on the banks of the stream. A handy sandwich, highly recommended by a hunting man, is made by having slices of bread cut to fit the case. Toast these, and cover with a good layer of potted meat ; then cut up into pieces about one inch square, and pack in layers. This will keep fresh, good, and tasty all day long. Hard-boiled eggs, cut in slices, form a useful adjunct to the lunch ; somewhat indigestible, but the exercise which an angler necessarily takes generally gets rid of any trouble. An apple or pear is also very refreshing, and serves better to assuage thirst than drinking water, which is objectionable. The safest drink is good whiskey and water ; those who object to alcohol must take their chance of procuring a glass of milk at a cottage or farm, taking care to ascertain that no infectious disease is in the house at the time. Typhoid fever is nearly always communicated by milk. Bear in mind that nothing is more apt to disagree with even the strongest stomach than a draught of cold milk taken after hard exercise and long abstinence from food. If possible, let the milk be heated or have a dash of spirits in it. Never drink river water, unless mixed with wine or spirits. A drink in moderation at a spring or well is safe enough, provided the body is not unduly heated.

**Scissors.**—Every angler should carry a pair of these useful articles in his fly book. They are safer to use than a penknife when cutting a fly out of the mouth of a fish, or clipping off the loose ends of casting line or fly links.

Special patterns are made with large bools and fine clipping points—used by nearly all fly dressers.

**Sea Trout Flies** are something like miniature salmon flies, with brilliant bodies, the favourite colours being various shades of red, orange, yellow, and blue, made from fine mohair or silk. Wings: Principally mallard, natural and dyed; grouse, natural and dyed; teal, and woodcock.



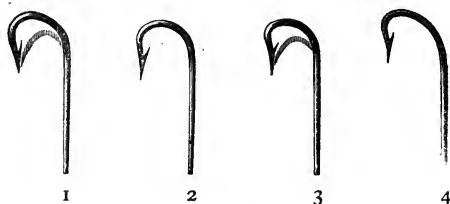
SEA TROUT FLIES.

Tails and hackles: Dark red cock's hackle, natural, and heightened to a bright port wine colour by dyeing with cochineal and tartar (*q.v.* "Staining Feathers"). The gut upon which the hooks are tied should be strong and fine; the hooks, for preference, Limerick shape, short in bend; a springy wire is dangerous, as these fish fight gamely.

**Sewen, The** (*Salmo cambricus*), is a species closely allied to the sea trout, principally confined to Wales, also found in a few rivers in the south of England, and supposed to be met with in the south of Ireland. It is migratory in habit, and ascends rivers to spawn. It is a very symmetrical fish, with small neat head, of a bright steel colour, the back often profusely dotted over with cross-shaped dark spots; its flesh is much esteemed. As a sporting fish it is nearly equal to the *salmo trutta*. The best time to angle for it is in the evening late, with fine

tackle and a small fly. It occasionally is got up to sixteen pounds, but the average weight is about five pounds.

**Shapes of Hooks.**—No. 1 is the Kirby; No. 2, round bent; No. 3, sneck bent; No. 4, Limerick. The



Kirby and sneck bent are a little twisted to one side; the round bent and Limerick are flat hooks. There are a number of other bends, but merely modifications of the above.

**Shoemaker's Wax** is made by melting together equal quantities of black pitch and resin; when thoroughly melted, a small quantity of butter or tallow is added to soften the compound. The quantity of grease depends upon the season of the year—more in cold and less in hot weather. This wax can be obtained from shoemakers, and if it has been used by them in their ordinary calling, give it a preference, as the more it is handled the better grip it has on the silk. Another sort is made by simmering, for ten minutes, two ounces of resin, quarter-ounce bees' wax, and quarter-ounce pitch; then add as little tallow as possible to make the wax sticky; add this by degrees, working up with the fingers until it is judged by the tenacity of the wax that there is enough; if too much, the wax gets greasy and loses its holding powers. Another recipe: Melt over a slow fire eight ounces black pitch, then add half-ounce fresh butter; stir well, and pour out on a wet slab or into



water. If found to be too sticky, re-melt, and add a trifle more butter. This makes a clean and tenacious wax.

**Shot Pliers** are specially made for splitting shot and nipping it on the line.

**Shrimp, The** (*Crangon vulgaris*).—A genus of crustaceans, allied to the lobster, crayfish, and prawn family, of a greenish grey colour, dotted with small brown spots, and rarely more than two inches long; very abundant on the British coasts wherever the shore is sandy. It is esteemed as an article of food, and is generally obtained by means of nets, in form like wide-mouthed bags, stretched by a short cross beam at the end of a pole or shaft—the shrimper wading up to the knees in the tide, and pushing these along the sand. It is a deadly bait for salmon.

**Shrimp Fishing for Salmon** is a very successful and deadly method, so much so that in many rivers which are strictly preserved the shrimp is not permitted to be used as a bait by the bye-laws relating thereto, although the use of it is not forbidden by Act of Parliament. If the shrimp can be got fresh, it is plumped into boiling water containing a little salt and saltpetre, which tends to toughen it and at the same time heighten the colour, which ought to be a bright pink. It must not be boiled long, or it will get too soft to be serviceable; the tougher it is kept the better. The shrimp may be baited on hooks similar to those used in prawn fishing (*q.v.*). A simple style of baiting, and one in common use in many of the Irish rivers, is as follows:—Insert a *round* bend worm hook in the thorax of the shrimp, carry down the body and bring out under tail; push the shrimp well up clear of the bend; then take another shrimp, rather smaller, and insert the barb of the hook at the tail and bring the point out halfway up the belly, leaving about

half an inch of the shrimp free. If the river is heavy, a BB shot should be used close to the shrimp. A common wine cork is slit on the side and the casting line inserted; this float should be so arranged as to keep the bait about one foot off the bottom. When a bite is seen to trouble the float, do not be in a hurry to strike until it is fairly taken down, when a strong upward pull or strike should be given; this detaches the cork, and the fish is played in the ordinary way. Shrimps may be preserved in glycerine for a length of time, but they are not so successful as the fresh ones. Shrimp fishing is similar to prawn fishing.

**Single Brazing.**—A term applied to the male ferrule when brazed only on the top portion.

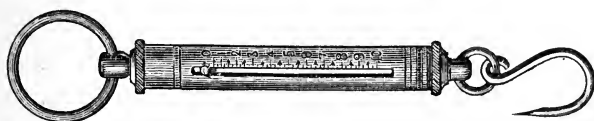
**Sinkers** may be split shot (*q.v.*) or thin strips of sheet lead, which can be wound round the casting line at any distance from the hook; various sorts are to be procured at the tackle makers' shops. Sinkers give a good deal of annoyance to anglers by catching on stones, causing loss of time and tackle, and, unless in very heavy water, are unnecessary.

**Spike.**—A piece of metal either of iron or brass, pointed at the end, which can be screwed into the butt of the rod or landing handle.

**Split Shot** are used as sinkers to regulate the speed of the worm or creeper travelling down the current; but, except when the water is really heavy, interfering with the natural movement of the lure is objectionable. Each shot is generally No. 6 size, and can be split by placing the blade of a penknife on it and giving a smart blow with a stone. This makes a cut sufficiently deep to catch the gut line in, which can be fastened by biting. When fishing in rocky streams let the gut be very slightly caught, as

often the shot gets in between stones and cannot be released without a break ; so if the catch is slight a gentle pull will detach the shot and save the casting line. (See "Shot Pliers.")

**Spring Balances** are occasionally carried by anglers when fishing for large trout or salmon, as they can weigh the fish after being killed, and the entry of such weight be recorded in the note book. These are now made very neat



SPRING BALANCE

and handy to be carried either in the pannier or pocket. The electro-plated ones are the easiest kept clean, and can be fitted in a suitable leather case. Balances may be had to weigh from one ounce up to sixty pounds.

**Staining Feathers.**—Many of the feathers used as wings and hackles for salmon, sea trout, and lake trout flies, as well as hackles for brown trout flies, are stained or heightened in colour, and for this purpose Crawshaw's dyes are most suitable, easily applied, and possess a good range of shades. A fast and beautiful stain, from a brilliant red to a deep crimson, can be given to the red cock's hackles by the following reliable recipe: Tie about one dozen of the hackles by the quills into a bunch, leaving one end of the tying thread free to take hold of. Make a mordant bath of alum and water, in strength one teaspoonful to a teacupful of water. Pour a little of this into a small test tube, and arrange over a spirit or other suitable lamp. Immerse the feathers completely, and boil for fifteen

minutes. Then rinse these in warm water, and after emptying out the alum solution fill the test tube again with water; add about one drachm of cochineal and a small pinch of cream of tartar. Immerse the feathers in this, and simmer gently for fifteen to thirty minutes—the longer they are boiling, the deeper the shade. The feathers can be examined from time to time, raising them from the solution by means of the thread. When the desired depth of colour is obtained, wash in clean water and dry in the air. If a bluish shade is required, rinse the feathers in a weak solution of ammonia and water. Claret stain: Same mordant; dye bath, madder and logwood. Orange: Same mordant; dye bath, first madder, then quercitron bark. The stain given to mallard speckled feathers, imitating the peculiar grey-green colour of the green drake wing, can be obtained by boiling the feathers in a decoction of the barberry root. Blue and green stains are seldom fast; altogether inferior to the natural colours of the feathers.

**Stains.**—In staining wood, the first thing is to get rid of any greasy matter on the surface, such as may arise from the hands using the oiled tools in shaping. This can easily be done by applying a hot solution of soda—washing or carbonate. After this, wash with clean water and allow to dry. The wood is then in a fit state to take any stain required. There are only one or two that are recommended to be used by the angler for his rods, should he feel inclined to stain them himself. The best of all, a rich brown colour, is very simple, and has the advantage of preserving the wood; it is highly recommended. Brown stain: Take one ounce of bi-chromate of potash or orange chrome crystals, dissolve in boiling water—say two wine glasses, and lay aside. Then

take one ounce of brown cutch, or the ordinary catechu of commerce ; boil in as much water as will dissolve it ; add about the size of a garden pea of sulphate of copper (blue stone). Brush the wood over with this, and allow to dry in the air, then give another coat, and again dry. The longer this coat remains exposed, before the next process, the darker the stain will be ; however, after a couple of hours, a nice shade will be obtained. Now heat the chrome mixture, and with a clean brush give the wood a coat, and very soon a nice warm brown shade will appear. It may have a second coat if not dark enough. After remaining about four hours, and being quite dry, the wood should be well washed in plain water to get rid of the superfluous colour and permit it to take a good polish. Walnut stain : Water, one quart ; washing soda, one and a-half ounces ; vandyke brown, two and a-half ounces ; bi-chromate of potash, quarter-ounce ; boil for ten minutes, and apply either in hot or cold state. Black stain : Boil one pound of logwood in four quarts of water ; add a double handful of walnut peel or oak galls ; boil up again, take out the logwood chips, strain in a cloth, and add one pint of vinegar. Apply this to the wood with a brush when boiling. Oak stain : Equal parts of American potash and pearlash, two ounces of each to a quart of water. This gives a good permanent colour, but requires careful application, as the American potash is a strong solvent, and will blister the hands. It may be applied with a clean rag tied to a stick, as it is so powerful that it would destroy a brush in a few minutes ; keep it corked in a bottle ready for use. If the wood takes too deep a shade, add a little water. These four stains are the most suitable ones for rods, landing net

handles or rings; other colours are objectionable. Gut should be stained a bluish grey or a muddy yellow colour. The first colour can be obtained by steeping the gut in ink free from acid, slightly diluted with water, or by putting it into a decoction of warm logwood half an hour, and then immersing in a weak solution of alum and water, a tablespoonful to half a pint of warm water. For a muddy yellow colour, let the gut lie in a warm decoction of onion peel until the shade is obtained, or steep in tea or coffee, or in a decoction of green walnuts. A grassy green can be obtained by boiling a small piece of green baize, and steeping the gut in when warm. A very slight change in colour is all that is necessary.

**Stone Fly Box.**—This is made for carrying the live flies, with a sliding lid at the top for dropping them in. The best is made to strap round the waist. The flies are taken out by raising the slide at the end. (See article on "Stone Fly.")

**Stoppers** are the plugs used to insert into the female ferrules of the rod after it is taken to pieces and before placing in the bag.

**Straps** are necessary to carry the fishing basket slung over the angler's shoulder. They are usually made of girth web, with leather points, tongued and buckled. An advantage is to have a waistbelt in connection with the strap, to ease the shoulder. The "Facile" is an improvement on the old plain strap, and when slung over the left shoulder it is claimed that it affords perfect freedom of the arm, at the same time keeping the basket in position by the waiststrap, no matter how vigorous the action of the body may be; it is also easily detached. Leather straps

are useful for binding up rods for the convenience of carrying.

**Striking** is the action of driving home the barb of the sharp hook into a fish's mouth ere it can be ejected, and to accomplish this object satisfactorily, requires both judgment and skill. Some anglers strike too slow, some too fast, and many not at all, trusting to the fish hooking itself firmly—as it sometimes does. Striking is rather an objectionable term to use as far as trout are concerned, as in their case the motion of the wrist upwards or sideways is quite sufficient to get a good hold; the hooks being so sharp and the trout's mouth not very hard, the weight of the line is very nearly sufficient to accomplish the desired effect. Some trout come what is called “short” at a fly, just touching it, one might say smelling it, and turning off sharp without seeming to take the fly in the mouth at all. With these gentlemen it takes quick work and good eyesight, as the instant the little boil made by the trout is seen, or the flash of the fish, the wrist should be turned, and there is a chance of the hook getting embedded somewhere about the jaw. When a jag (*q.v.*) is felt, always respond with the striking motion, as sometimes a hook touches a cartilage or bone and does not penetrate, and the strike will cause it to slip off and stick in a softer place. With salmon the strike is different. Some anglers give a quick jerk when they see the boil or feel the fish. The proper way is to give a steady, strong, dead upward pull, with the line running through the fingers, and this only at feeling the touch, which should be very perceptible. In trout fishing, when striking, the line should not be touched by the hand at all, as the check on the reel gives quite sufficient resistance, and if there is a sudden rush of the fish, which may be a strong

one, there is less danger of a break, as the reel will respond at once. In pike fishing the strike should be a strong one, as sometimes this fish gets the bait across his mouth, and it has to be pulled round to get the hooks into the jaw, which is a hard one. If the trout rod is whippy, when the hand or wrist moves to strike, the angler will notice that although he raises the butt with his hand, yet the point depresses for a moment, which slacks the line in place of tightening it, so that he must humour the motion of his stroke to prevent this—very often the result of an involuntary downward motion of the wrist before the upward motion takes place, as if the angler wished to emphasize his striking by backing, so to speak, on his ground before he made the jump. With a stiff-topped rod this downward bending is not so apt to occur, and, as a rule, a stiff rod will strike quicker than a whippy one. More fish are lost, especially trout, by slow striking than by quick.

**Swims** are chosen portions of any stream or river where it is desirable to congregate fish by feeding them with ground bait, thus giving the angler a better chance of capturing them with his artificial bait or other lure. It is usual to bait these swims over night, and barbel, chub, gudgeon, and other ground fish may be caught in numbers by judicious management. The ground bait should be thrown in above the swim, after judging how the current will carry it, so as to allow it to settle on the bottom of the chosen spot, and not be carried past it by the stream.

**Swivels** are indispensable articles used in spinning tackle, for attaching the various artificial and live baits to the traces, and preventing the main line getting twisted. Among the varieties, the most useful and common are box, hook, spring, buckle, and watch spring. These are



made from brass, steel, and German silver, and are of different sizes. It is well for the angler to have an assortment of these in his stock. Be careful to see that the



BOX SWIVELS.

necks run smoothly, without any tendency to get jammed; a little oil applied before and after use will assist the easy working of the swivels.

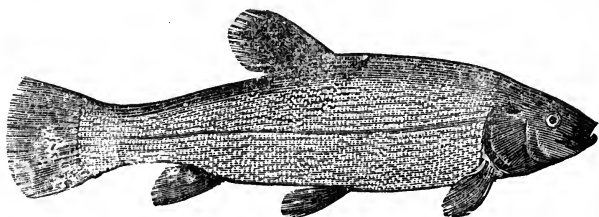
**Tackle** means nearly every article that an angler requires for his sport—lines, reels, spoons, minnows, traces, flights, hooks, wax, thread, gut, scissors, &c. These should always be kept in a box devoted to the purpose. A most suitable one is a deed box, such as lawyers use, which can be had of various sizes, made of strong block tin, with a close-fitting lid, handles top and sides, and a good lock. It can be fitted internally with trays to lift out, and also sub-divided into suitable partitions to hold the various articles required, and if carefully fitted up it is wonderful what a number can be stowed away easily in a small space. Any tinsmith can make these trays and divisions; they cost very little; so the angler starting on a fishing excursion may have his mind easy when he knows that all his requirements are in the box, which he can carry with him. Let the bottoms of the trays be lined with loose

pieces of baize, and the casting line or gut partitions with chamois leather. The name and address should be either painted on the lid or engraved on a small brass plate. The inside of the box should be japanned and the outside painted and varnished.

**Tackle Cases.**—These are made very much in the shape of a fly book, but contain a box to hold lines, floats, and hooks, and are only used by the bottom fisher.

**Tanned Twill.**—A strong material, waterproofed and made into fishing stockings and trousers. (See "Waders.")

**Tench** (*Tinca*), a genus of fishes of the family of the *cyprinidæ*. It is thick in proportion to its length, the scales are small and slimy, is leather-mouthed, and has a barbel at each side of the mouth. The teeth on the pharynx are compressed and club-shaped; tail nearly square and



THE TENCH.

very broad. The colour of the back is of a dark dusky yellow, sometimes inclining to a greenish gold. The common tench is found in many of the still waters of England, and its haunt in rivers is chiefly amidst weeds and in shady spots under trees or bushes. It passes the winter in a torpid state. Being very tenacious of life, it may be conveyed considerable distances without suffering injury if kept in damp moss. It spawns in May and June as a

rule, but in some waters as late as August. The flesh of the tench is soft and tasteless, but if kept in clear ponds and well fed it is not to be despised for the table. The average weight is about five pounds, but instances have occurred where it has attained the weight of fifteen pounds and a length of three feet. Tench are supposed to live for a century at least. Daniels, in "Rural Sports," makes mention of a tench, caught at Thornville House, in Yorkshire, two feet three inches long and upwards of eleven pounds in weight, and gives an excellent illustration of the fish.

**Tench Fishing** is similar to carp fishing. The tench is very capricious in its feeding, and although every known lure and bait may be put before it, yet it will refuse them *in toto*, and not give a sign to show that such a fish is in the pond, although it may be plentifully stocked. The tackle should be strong but moderately fine, furnished with a cork float and a No. 4 or 6 hook; better to have two hooks, one placed about six inches above the terminal one. The best baits are worms, unscoured, taken from an old tan pit. A few shot may be placed above the upper hook and the bait allowed to sink to the bottom, when it should be drawn quietly towards the surface. The best time for tench angling is in the evening, up till dark. The place or swim should be ground baited with broken worms a day or two before angling in it. They sometimes nibble a good deal before actually seizing the bait. When this happens, draw the bait a few inches away from them, and, fearful lest they will lose it altogether, they sometimes make a dash at it and are fast. Their mouths being tough, there is not much danger of losing them unless the line gets entangled in a bank of

weeds. It is well to keep a tight line upon them after they are struck, and work them into a clear place in the water.

**Tobacco.**—Nine anglers out of ten are addicted to the use of the “soothing weed,” and it is astonishing how much tobacco can be made away with during a day’s fishing, especially from a boat. There are hundreds of sorts, blends, and mixtures to be obtained, each man having his own particular favourite brand. For those who have not yet settled this momentous question, a good mixture is here noted :—Two ounces of golden flake honeydew, one ounce of best brown cavendish, and half an ounce of Latakia, well mixed together. This gives a cool and pleasant-flavoured smoke, and a pipeful of it will last as long as any other mixture. The above quantity can be very well carried in an indiarubber pouch, and it keeps better in this than when put into jars, cases, or boxes.

**Trimmers** are used in angling for pike in ponds, lakes, or reservoirs, and are made in several forms, the principal ones being round and wedge-shaped. The round sorts are made of cork or light wood, about seven or eight inches in diameter, with a groove in the edge, capable of holding about a dozen yards of strong pike line. A peg is placed in the centre, with the end split, and a double pike hook fastened to wire or gimp is attached to the line. The hook is caught in the side of the live bait, which may be gudgeon or dace, and the shank and a portion of the gimp is inserted by the baiting needle just under the skin ; a swivel is fastened to the gimp, and another about two feet off. If carefully done the bait will live for some hours. One end of the line is tied to the trimmer, and the distance at which the bait is to swim is arranged by inserting the main line into the split peg, so that when the pike seizes

the bait the cord slips out of this and unwinds from the trimmer and the whole apparatus floats away, after which it may be followed in a boat, and the line carefully handled until the pike is landed. The wedge-shaped trimmer is baited the same way, and is useful where weeds abound, as from its shape it can be dragged through them safely. Always start the trimmer on the windward side, as it will not then get foul of the bank. A dozen trimmers can be at work at once, should the water be of any size and pike abundant. There is not much sport in this style of fishing, and if fish feel pain—many assert they do not—it is a cruel and lingering death for those used as bait.

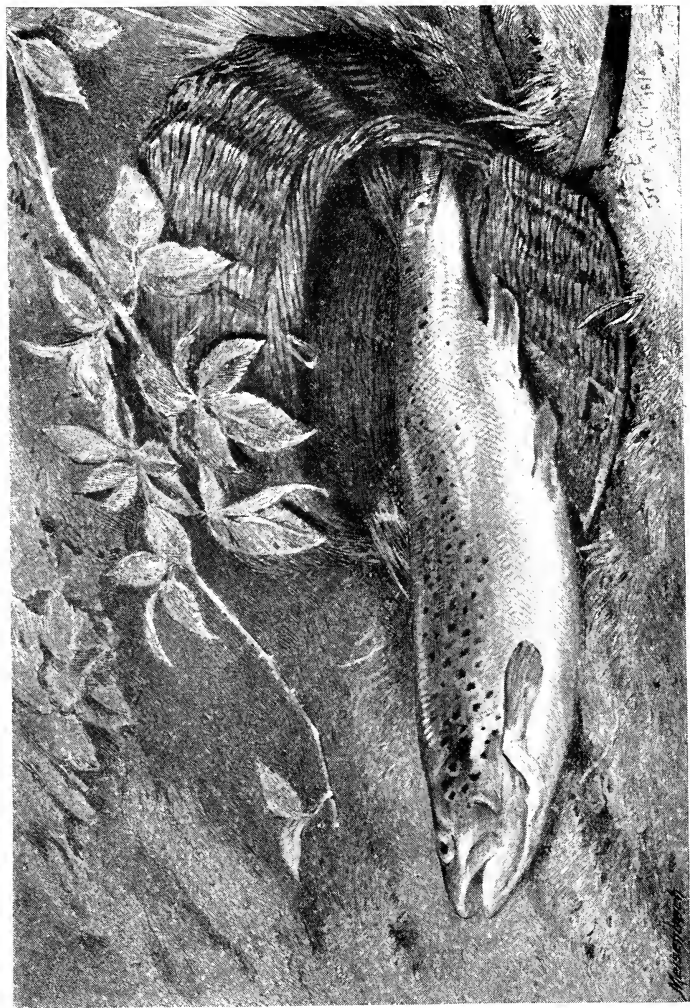
**Trolling** is really angling by spinning, and the term is mostly used to denote the sport when followed in a boat. All the great lake trout (*salmo ferox*) of Scotland are mostly captured by trolling, as well as the large fish in the meres of England and the loughs of Ireland. Pike are also successfully angled for by this method, but in working among weeds in a river or pond the gorge tackle is used, as the hooks are pretty well kept out of the way and not so liable to get entangled. Usually in trolling from a boat the angler sits on the after thwart, which has a second one immediately below, with a space sufficient to allow the rod butts to lie in, with the reels clear and the rods resting over the stern arranged fan shape. The boatman sits well up in the bow and rows against the stream zigzag, keeping the lines free of each other and nicely spread. When a fish takes the bait the angler lifts the rod upon which is the fish and plays it, while the boatman reels up the other lines—usually there are three rods employed, sometimes only two. If near the shore it is better for the angler to be landed at once, and to kill his fish from there. In some

lochs in Scotland the rods are thrust into a sheaf of straw instead of being caught under the seat. It is usual to troll with the lines at various lengths; and the rod employed should be at least fourteen to sixteen feet long, stiff, and furnished with a reel containing one hundred and twenty yards of line. A dark day, with wind, is considered the best for this style of sport, especially in lakes or lochs. The boatmen, as a rule, know all the likeliest spots to work over, and it is better to follow their advice in all relating to the day's sport as regards tackle, baits, &c. Very good information on trolling in lakes can be obtained from a perusal of "Stewart's Practical Angler," a most useful and reliable book.

**Trout, Loch Leven** (*Salmo leveniensis*).—(Vide "Loch Leven Trout.")

**Trout, The Bull** (*Salmo eriox*), is a fish closely allied to the *salmo salar*, and like it ascends rivers to spawn and descends afterwards to the sea. It is found in a few of the rivers in the northern part of Britain, and is sometimes called the grey trout. It is not so symmetrical in appearance as either the salmon or the other varieties. The tail is inclining to a convex shape, especially in the older fish; the tail fin is also of this form. The scales are smaller than those of the salmon. The colour of the males reddish brown, and that of the females dusky grey. They have only a few teeth inserted in the palate bone, whereas the other varieties of trout have a good line of teeth there. The flesh is pale, and not much appreciated as food. The small or young of this fish are called whitlings, but this term is also applied to white trout, and as both the bull and the white or sea trout ascend the tidal rivers about the same time, they may be confounded;





THE COMMON TROUT. (*Salmo fario*.)

FROM A DRAWING BY A. W. COOPER, ESQ.



but the difference in their sporting style ought to be able to decide the matter, as the bull trout are lazy and dull and do not rise well at the fly, while the other species are the gamest fish that swim. They are very destructive to salmon spawn, and are not desirable inhabitants of a sporting river. The opinions concerning it are very conflicting, many asserting that it is really a white or *salmo trutta*. However, the fish of the Coquet river may be considered an established variety, seeing that no other migratory *salmonidæ* are found there. Full information about this fish may be found in Houghton's fine work on "British Fresh Water Fishes," in which a characteristic engraving of the fish is given.

**Trout, The Common** (*Salmo fario*) abounds in nearly all the lakes and rivers in the British Islands. It can be found in the smallest mountain stream up to its source, and in the drains which feed it on its downward course. The head of the common trout is short and round, the eye prominent, the shape of the fish when in condition very symmetrical—the outline of the back corresponding to that of the belly. The tail is slightly forked in the young fish; as it gets older the fork disappears. The teeth are numerous, strong, and curved; the scales small. The back is of a dark ash hue, sometimes tinged with purple; the sides yellow. These colours change according to the streams they inhabit. If the water comes from moorland, the colours are not so bright, but incline to dusky slate. If the water runs over clear pebbles or granite, the colours become quite bright—the belly and sides gold, and the back takes a lively brownish shade. They have bright red and black spots sprinkled all over the body and gill covers. These differences in appearance have led some naturalists

to suppose that there are different breeds which have been confounded into one. The tint of the flesh varies also quite as much as that of the external appearance. Some have white flesh, some pink, some yellow, and many of them red, and this difference again is entirely owing to the variety of the waters they inhabit and the peculiar standard feeding they obtain in them. Trout will increase in size very much if they are placed in large bodies of water, where food is plentiful. A good average size for the common trout is one pound, and this only to be had in fair-sized streams; still, when well fed and inhabiting large rivers, such as the Thames, these fish will go to the weight of twenty pounds. The trout are very voracious feeders; nothing comes amiss to them, from the tiny midge which falls upon the surface of the water to the frog or water-rat. They devour their own species when hunger compels them; but there is nothing they are so fond of as a bright red worm. They will even lose their proverbial shyness when this is offered to them, and seem as if they could not resist the temptation. A noted species of the common trout, or rather one variety of it, is found in many of the lakes in Ireland. It is called the gillaroo, a description of which is given under its own heading. There is also a variety called the slob or estuary trout, hardly ever got above the tidal flow. It is mostly caught at night, with bait, being a bad riser at a fly. This trout is in best condition in January and February, and at this time almost approaches in shape that of the roach. There is also the rainbow trout and *salmo fontinalis*, now introduced into our lakes and streams. Again, there is the black fin trout (*salmo nigropinnis*), which is caught in Lough Melvin, and is the commonest variety in that lake; it is also found in

the mountain pools of Wales, and is a very lively fish, with pink flesh and unsurpassed in flavour for the table. Dr. Houghton speaks highly of this variety, and gives an excellent illustration of it in his work on "Fresh Water Fishes."

**Trout, The Great Lake** (*Salmo ferox*), differs from the common trout, in that it never ascends rivers except for the purpose of spawning, is also longer in the head, has the fins differently placed, the tail square cut, and the spots less numerous but very much larger. It is non-migratory and essentially a deep water fish, inhabiting the lochs in the north of Scotland, a few in the north of England and Wales and some of the Irish lakes. It attains the weight of thirty pounds; is as ravenous as a pike, feeding on small fish; makes a fierce fight for liberty when hooked, but is rather shy and difficult to get hold of. It spawns in October, and comes into season about the first of March. In appearance it is decidedly ferocious-looking.

**Trout, The White or Sea** (*Salmo trutta*), is rather thicker in proportion to its length than a salmon of the same size, and has the hinder margin of the gill cover less rounded. The teeth are strong and well developed, with a curve; those in the vomer or palate bone are pointed alternately in opposite directions. The colour is similar to that of the salmon; the spots are dark, and shaped like the letter X. The average weight may be taken as five pounds, but they have been caught weighing twenty-six pounds. The flesh is pink, highly flavoured, and preferred by many to that of the salmon, as it is not so oily. It swims in shoals, and is very voracious when leaving the sea to ascend the rivers, at which time it is caught in numbers by the stake nets and also affords the best of sport to the

fly fisher. It can also be angled for, and will take a fly, in the brackish water at the mouth of the river. It is very active, and can force its way over rocks and stones if it has enough water to half cover it. There are one or two sub-varieties, differing principally in colour, such as the Galway sea trout and those of the Tweed and Solway.

**Trout Existence.**—The ova of trout are placed or deposited by the female parent in gravelly beds of streams in October, November, and December, and are hatched out in February, March, and April. The young fish are about five-eighths of an inch in length, and derive their sustaining nourishment for a few weeks from a sac-like appendage which is attached to them. In about six to seven weeks this bag is absorbed, and the young fry flit about seeking what nourishment the water in which they swim affords. They now have the same appearance as young salmon, being marked with transverse bars, and like them in other respects as well. One known characteristic, however, will determine whether the fry is salmon or trout, and that is the second dorsal fins in trout are of a yellow tinge, while those of the salmon are dark. At the end of the year they attain a length of three to four inches; if food is plentiful, and the stream in which they exist is a favourable one, they sometimes grow to the length of six and seven inches. In the second year they increase a couple of inches, and will then be six to eight ounces in weight. As a rule, in small rivers and brooks, they do not grow much more in length, but they increase in breadth and in thickness over the shoulder; a trout may be nine inches long and only eight ounces, while one of the same length in a good stream and well fed will be over one pound in weight. Some naturalists aver that trout only spawn every second.

season. However, it is well known that they invariably try to make their way back to their original spawning ground, just as rooks return to their last year's nests. Trout are hardly in condition for angling before the first of March, and then only if the weather is mild; if not, they are retarded in condition, sometimes as late as April. A good indication when trout may be angled for is noted by "Old Isaac Walton," and it is as true to-day as it was when he wrote it—"When the hawthorn begins to show the green bud." Until the weather gets genial and the sun gives out some heat there is a delay in the insect life hatching, the trout very often having to depend for food on the flies rising from the larva state to the surface. One of the first insects that makes its appearance in quantity is the March brown. It rises in considerable numbers from the bottom of the river in March and April, and as it is a big luscious fly the trout feed on it greedily and soon become lusty and strong. There are perhaps more trout killed over the country with the March brown artificial fly than with any other. Some anglers never mount a cast without having one attached, and in mountain streams the trout will rise at this fly in September as fast as they did in March. Then in succession as food come various duns and spinners, the May fly, the stone fly, and the cow dung fly, which on windy days is blown into the river; next the water clocks and the sedge flies make their appearance on the water, and, later on, the oak and house flies. The various land flies are offered to the trout from the many bushes and grasses which overhang and grow alongside the river, and these, with worms, molluscs, and water beetles, make up their forage till spawning time comes again. No fish are so susceptible to atmospheric changes as the trout. The day may be bright and clear

yet no sign of a fish either rising or being caught ; in an hour or so the clouds darken and rain descends, and when it clears again the fish rise in numbers, splendid baskets being made just after a thunder shower or a sudden downpour of rain, while previous to these all the lures an angler could offer would be powerless. This change is owing to magnetic influences of the atmosphere, not perceptible to man, but felt by fish—at least this is the only known theory put forward for this caprice of the trout. It is difficult to ascertain the age to which trout live. Daniel, in “Rural Sports,” instances one living in a well for twenty-eight years, but it never increased in size or weight. Probably five years is the limit of trout existence.

**Trout Fishing** may justly be termed the premier sport of the angler ; for although fishing for salmon is perhaps the more noble pastime, yet it is only the few who nowadays are able to indulge in it, and there is certainly more skill required to capture trout than any other fish. A good trout fisher will always be able to hold his own when called upon to angle for the larger *salmo*, but a first-class salmon fisher may know very little about angling for the smaller variety of the species. Trout can be angled for in a variety of ways—by bait, artificial minnows, and by both artificial and natural flies, all of which methods are explained under their different headings. Certainly the most popular style is angling for these fish with the artificial fly, and pleasant sport it is. To become a good trout fisher it is almost a necessity that the angler should study the subject and view it in a hundred aspects. When he goes to a stream to angle, he should be able at once to determine on his line of action. If the water is full and strong, he has only to cast away, covering each spot of water carefully, so

that none of it be missed. If, on the contrary, it is low and clear, he must search out for himself the best eddies, runs, or dark spots, and render himself as invisible as possible. If the water is flooded, he may try the artificial spoon or minnow, or the natural bait, such as a well-scoured red worm. Trout in the early season begin to take sooner in the day and leave off soon in the afternoon; as days lengthen, angling may be begun later and continued until the sun goes down; and in autumn, in lakes, lochs, or ponds, evening is the best time, when it may be carried on until dark or even during the night. Trout lie with their heads up-stream, consequently the angler should approach them from behind, that is if the wind is favourable and the water clear; if there is a good supply of water, the angler may allow his flies to pass below him, and even to cast below with a long line. Trout are capricious feeders, and although they must cater for their appetites at some time or other during the day, yet it is uncertain when that period will arrive. An angler may sit on the bank and watch for hours for even the shadow of a dimple on the water without seeing one, when suddenly the whole surface becomes alive with rising fish. This is attributed by some to the wholesale hatching of flies taking place at the one time, and which the fish, with a natural instinct, have been waiting for. But again, it has often been noticed that there were lots of flies sailing down the river all day without a fish seeming to take one, and still this unaccountable rise will take place, and is the time when the angler can fill his basket if he is apt at the work. These special rises occur generally in the warm summer evenings, just as the sun is going down, and are called the "night rises," during which period the best fish are taken. Very often when trout are not seen rising, and will not take

the artificial fly on the surface of the water, they are feeding on the embryo flies rising from the bottom, which they hunt and catch before they get to the surface. It is almost useless trying the artificial fly when this is the case ; at any rate, the only plan to be adopted is to fish with sunken flies—that is to say, allow the flies to sink well down in the water. When two or three friends join in an angling excursion, they should arrange matters so as not to interfere with each other's sport ; they should divide, and agree to fish certain lengths of the river. It is a bad plan passing each other ; better to wait behind your friend who is fishing in front, and if half an hour intervenes between his flogging the water and yours there will not be much harm done. Perhaps your fly is more to the trout's taste than his, and you may catch where he has missed. A trout fisher, when just going on the water, should try and find out the natural fly which is sailing down, and then match it from his collection ; this will give him a better chance. If he has not a *fac-simile*, he should get one as near it as possible, especially in colour. In rivers where good-sized trout are known to be, an angler should return to the water all trout under eight inches. In mountain streams where small trout abound—and only small trout—it may be allowable to basket those over six inches, but all under should certainly be returned. In well-preserved waters there is usually a scale of the size of the fish which may be killed. As a rule, large heavy rivers contain a few good trout, and small quick-running streams an abundance of small trout. This is partly due to the fact that in heavy streams the spawning places are not well adapted for hatching out the young fry, owing to the depth, the coldness of the water, and the sand or marly bottom of the



river getting swept over the spawning grounds: In small streams, especially mountain ones, the water is shallow, and there are numerous spots of a nice gravelly sort where the ova of the trout can be hatched out to perfection, and as the water in these streams is generally pure there is less danger of the young, eyed ova getting poisoned or diseased, as is often the case when hatched in the larger rivers. In the spring months trout should be searched for in the rough streams, and as the summer advances they go to the deeper portions of the river, when they may be angled for in the pools and holes under overhanging banks, near stones or rocks rising out of the heavier water. In the summer evenings they leave the pools to feed on the shallows, returning to the deeper portions when daylight sets in. In autumn they begin to run up the shallows again, and if there are any small feeding brooks or ditches they ascend them to spawn. In the early months, when the water is heavy, they will take the worm; in the summer and autumn the most successful lure is the artificial fly, but very fine sport may be had with a bright clear worm at these later seasons provided the angler keeps well out of sight and angles with very fine tackle in an artistic manner. (This is described under the head "Worm Fishing in Clear Water.") In large rivers, such as the Thames, the best trout are got by spinning with the live and artificial bait. When a trout is hooked by any means, endeavour to get an idea of its size, as sometimes a small trout, hooked by the outside of the jaw or the back fin, will pull so heavy and play so freely that the angler is under the delusion that he has caught the "big one." Now if the trout is small, it is no use wasting time over him and spoiling the water, so the sooner he is brought to bank the better. If the trout is large, do not

hurry ; give him plenty of time, and enjoy to the utmost the pleasantest part of a trout fisher's sport, namely, the playing of the fish. This is the crisis, full of doubt, hope, fear, and exultation, and after the feelings have passed through all these, there comes the satisfaction of content that you have won the day, when, lying at your feet, on the grassy slope, is the bright, handsome, active fish, whose capture with the minute tackle you have employed is calculated to give you the greatest meed of enjoyment and pleasure. If the water is suitable, the man who wades has certainly an advantage over the man who does not. In the first place, being so close to the water, in fact half in it, there is much less chance of the fish seeing him. Their eyes, from the peculiarity of their formation and the refraction of the water, are better adapted for looking up than either down or straight before them, hence they see most distinctly a figure on the banks of the stream above them, but do not well see the same figure either wading or kneeling down on the low shelving sands of a river. Again the wader is able to take advantage of any likely spot on either side of the water from which a cast can be made. Winding streams generally have one of their banks low and shelving. At each quick bend, and from these low banks, the angler has the best chance, as opposite is sure to be deep-running water, in which the trout lie. Therefore, to get at these "coigns of vantage," the stream may have to be crossed a dozen times in a quarter of a mile. Sometimes trout "midge," that is, feed upon the very minute midges or insects which flit to and fro across the water in the evening sun. When this is the case, it is almost useless throwing to them an artificial fly ; if you do, it must be one as infinitesimal as the living ones which they

are devouring, and the striking must be as quick as thought, as they seem at that time to be particularly careful not to get hold of anything objectionable. They rise and rise, and will not hook, and the angler flogs and changes his flies, and sits down hopeless—smokes and meditates upon the uncertainty of things in this world, and tries again, until he finally goes home disgusted with fish and fishing and everything connected with either. The dry or floating fly, very small, is the only chance, and even it is uncertain when this state of things occurs. When a trout is seen rising persistently in one spot, he is worth looking after, and special arrangements should be made to capture him. In the first place, the fly that he is taking should be found out, and one picked out of the fly book that will match; the finest cast should then be set up and this fly put on as the tail, either with one or two droppers, but it will do equally well if alone on the cast. The distance to the rising fish should be measured with the eye, and a corresponding length of line drawn off the reel and whipped on the water away from where the fish is, so that the proper length may be judged as accurately as possible. When this is arrived at, give one nice, even, light cast about one foot above the rising fish; raise the rod slightly, to lift any slack line behind the fly, and let the latter sail quietly over him, when very probably he will confidently take it the first time of asking. If he does not, withdraw the fly, keep quiet in the same place, and after he rises again, perhaps a foot further up or down, try the same cast again, when success may this time crown your efforts. The fish may be rising in an awkward spot, under a bush, or near a sunken tree, or beside the arches of a bridge. All these surroundings must be considered with

care, and the judgment brought into play, how best to throw the fly temptingly over him ; but this necessity for the exercise of the angler's ingenuity is one of the great charms of trout fishing. If trout were easily caught, by any means, without any care or forethought or skill, the charm would be lost. The greater the difficulty, the more credit in overcoming it. The late Mr. Francis, in his charming book on angling, gives such cases as these, and a perusal of them will be of use and interest to the young angler.

**Trout Flies.**—Their name it legion, and exhaustive lists can be found in any tackle maker's catalogue. English and Scotch dressings are very similar. As a rule, spider or hackle flies are favourites in Scotland and in the north of England ; winged flies are mostly to be found in the south of the latter country and over all Ireland. Many of the English flies are now dressed with dyed quill bodies, which are very neat, and stand wear and tear remarkably well. Nearly every angler, after he has had a little practice in the gentle art, begins to fashion his own flies or have them dressed according to his particular ideas, believing, from his observations and experience, that they will be more successful as lures than those he has hitherto been in the habit of using, and in many cases this may be true. He may be apt at judging colour, and, as mentioned in previous articles, colour is the essence of success. Whether the body of the trout fly is composed of silk, fur, wool, or quill, I believe if the colour is right it will be taken by the trout. "Red Spinner," one of the most practical anglers of the present day and a well-known writer on all relating to the sport, has drawn attention even to the colour of the hooks upon which the fly is dressed, and recommends careful observation on the part of anglers as to the merits of blue

or bronze for the colour of hooks. He seems in favour of bronze, and I may say I have been more successful with that colour. It is always judicious for the fly fisher when going to any particular district hitherto unknown to him to ascertain the prevailing flies used there, and a good professional fly dresser should be able to give the proper flies if he is told the district they are required for and the season. The following list of flies has been carefully made out, and if they do not catch fish it is not their fault. All or any of them may be used for fly fishing in the United Kingdom, but as there exists an accepted difference in the dressing for each country three separate lists are appended. one each for England, Scotland, and Ireland.

#### ENGLISH DRESSING.

**FEBRUARY RED**—*body*, dark brown mohair and claret mixed ; *wings*, hen pheasant ; *legs*, partridge neck feather. One of the earliest of river flies. In some districts it comes on in the middle of February, and is found till the end of March.

**BLUE DUN**—*body*, light olive silk, with a slight dubbing of blue fur, or without it ; *wings*, starling, stained olive ; *legs*, light olive or dun hackle ; *tail*, two rabbit whiskers, with or without a turn of gold tinsel at tail. The above is one of the best-known of the dun flies, and found on nearly every trout stream in the United Kingdom. It assumes several shades, consequently there are many modes of copying it. The above, if correctly dressed, gives a fairly good imitation. For an early fly it ranks as one of the favourites.

**MARCH BROWN (MALE)**—*body*, hare's ear and yellow mohair mixed, rib over with yellow silk or fine gold twist ; *legs*, partridge back or wren's tail ; *tail*, two strands of mallard or partridge's tail feather ; *wings*, quill feather of hen pheasant's wing or partridge tail. This celebrated fly comes on in March and continues till April, when it changes into the great red spinner and disappears about the end of May. It also kills well in August and September, and if made rather large is an excellent lake fly.

**MARCH BROWN (FEMALE)**—*body* and *legs* same as above, ribbed gold twist ; *wings*, lightest feather of hen pheasant's wing.

**YELLOW DUN**—*body*, pale yellow mohair, spun upon lemon-coloured silk ; *wings*, young starling ; *legs*, pale yellow or dun hackle ; a turn of gold tinsel at tail is sometimes added. This is an indispensable fly, as it resembles many light duns that appear from time to time. It is first seen about the middle of May, and will kill well into July.

**ALDER FLY**—*body*, bronze-coloured peacock's herl ; *legs*, rusty-black cock's hackle ; *wings*, landrail or brown hen's wing, dressed flat. From the middle of May till the end of June this fly will kill well. F. Francis, in his book on angling, gives it an excellent reputation as one of the best evening flies.

**OAK FLY OR DOWNLOOKER**—*body*, orange floss silk, ribbed with lead-coloured silk ; *legs*, furnace hackle ; *wings*, woodcock or lark. The natural fly is found on trunks of trees alongside of rivers, and always with its head downward. It is sometimes used for dapping, but does not generally bear a high reputation as a good killing fly.

**HARE LUG**—*body* and *legs* from hare's face, with the blue roots carefully clipped off, spun on yellow silk, very full at the shoulder ; *tail*, two fibres red cock's hackle ; *wings*, pale starling, or may be varied by wings of woodcock, dubbing picked out for legs. This fly may be ribbed with fine gold oval twist, and may also have some golden-olive fur, mixed with the hare's fur for the shoulder. The hare lug is the most universally used of all the present known trout flies.

**CINNAMON FLY** (called so from a faint odour of cinnamon arising from the natural insect)—*body*, hare's ear mixed with a small portion of sable fur, this spun upon pale orange silk ; *legs*, ginger hackle ; *wings*, landrail or brown owl. This fly is principally used in August. When made large it kills well on lakes.

**ORANGE DUN**—*body*, bright orange silk ; *legs*, dark furnace hackle ; *wings*, dark starling. This fly may also be ribbed with fine gold twist. It is one of the best for mountain burns when the water is discoloured with peat soil ; no better fly can be put on the cast.

**SAND FLY**—*body*, hare's ear, ribbed with light brown silk ; *legs*, ginger hackle ; *wings*, landrail ; dressed on small hook, No. 1 or No. 2.

**OLIVE DUN**—*body*, yellow floss silk, ribbed with cream-coloured silk ; *wings*, sea swallow ; *legs*, pale dun hackle. This fly requires to be dressed very neatly. Nearly all the pale dun flies are now made with straw or quill bodies, dyed to the requisite colour, and are very delicate in hue.

**HAWTHORN FLY**—*body*, black ostrich herl, wound with dark brown silk, full, short, and round ; *legs*, black hackle ; *wings*, light starling. An excellent fly, and one that kills well on ponds and still waters. It may

sometimes be varied with advantage by giving the tail two or three turns of gold tinsel.

**ORANGE GROUSE**—*body*, dark orange silk ; turn of gold tinsel at tail ; *wings*, red grouse ; *legs*, dark red game cock's hackle feather. This fly will kill well in August and September.

**RED SPINNER**—*body*, copper-coloured silk, ribbed with gold thread ; *tail*, three strands of black-red game cock ; hackles of same for legs ; *wings*, dark starling, or, better still, the warm golden feather from the American wood duck. This is one of the well known flies, and may be used after the disappearance of the blue dun in May and June.

**GREENTAIL OR GRANNAM**—*body*, fur from the hare's poll spun on light brown silk : a couple of turns of bright green peacock's herl at tail to represent eggs, as seen in the natural insect ; *legs*, ginger hackle ; *wings*, light-coloured hen pheasant. This fly only lasts about a fortnight in April, and is much used by anglers in the North of England.

**GREEN DRAKE**—*body*, straw-coloured mohair, ribbed with gold twist ; *wings*, a mallard or summer duck's mottled feather, dyed a pale olive green by the bark of the barberry shrub ; *legs*, honey dun hackle ; head of this fly made by a turn or two of peacock's head feather or dark brown silk.

**THE GREY DRAKE**—*body*, light dun-coloured mohair or floss silk ; *tail*, two or three mallard fibres ; *wings*, mottled feather of mallard, undyed and slightly bleached ; *legs*, a dark dun cock's hackle. The drake flies are generally dressed now with cork or indiarubber bodies, in the detached body style (*q.v.*) ; they are essentially floating flies.

**LITTLE GREEN DRAKE**—*body*, pale ginger-coloured fur from behind the hare's ear, ribbed over with yellow silk thread ; *tail*, one or two whisks from a dun hackle ; *wings*, mottled feather from mallard, stained as for green drake ; *legs*, light dun hackle, stained yellowish. This is called by Ronald the little yellow May dun, and the dressing as above is recommended by the same author.

**GRAVEL BED FLY**—*body*, lead-coloured floss silk ; *wings*, light woodcock ; *legs* made from a long black hackle. This fly is only found in some localities, but it kills well when the natural flies appear. Tie on a No. 2 hook.

**LITTLE IRON BLUE**—*body*, mole's fur, tied with crimson or copper silk ; *legs*, slate blue hackle ; *wings*, of a lead-coloured feather, dressed upright. This will give a good representation of this little fly, which appears about the middle of May and continues well into June. It comes in shoals, generally on cold days, and, when well on, trout seem to prefer it to all others.

**EVENING DUN**—*body*, straw-coloured wool, very slightly wound on ; *legs*, pale dun hackle ; *wings*, light starling, dyed a pale yellow ; made on Nos. 0 and 1 hooks. An excellent evening fly in June and July.

**BLACK GNAT**—*body*, black wool or thin ostrich herl ; *legs*, black starling ; *wings*, blackbird quill feather or darkish starling ; made on No. 0 hook, very small. A fly well known, and may be used the whole season.

**TURKEY BROWN**—*body*, brown silk floss, ribbed with purple silk ; *legs*, brown hackle ; *wings*, from partridge rump ; *tail*, two strands of brown hackle ; hooks No. 2 or 3. Kills well after the disappearance of the March browns.

**COW DUNG FLY**—*body*, dirty yellow wool ; *legs*, ginger hackle ; *wings*, from quill feather of landrail ; Nos. 2 and 3 hooks. Mostly used on windy days.

**YELLOW SALLY**—*body*, yellowish buff wool ; *legs*, ginger hackle ; *wings*, white feather, dyed a pale yellow. This yellow fly sometimes kills well, and where willow trees are growing it is very abundant.

**SEDGE FLY**—*body*, made of ginger-coloured fur, ribbed with gold tinsel ; *legs*, light red hackle, run down the body ; under wings starling, upper wings landrail quill feather ; hook No. 2 or 3.

**SILVER HORNS**—*body*, black ostrich herl ; *legs*, black hackle ; *wings*, from the quill feather of a cock blackbird ; *horns*, two strands of grey teal ; hook No. 2 or 3.

**SKY BLUE**—*body*, blue fur, mixed with pale yellow wool ; *legs*, ginger hackle ; *wings*, from sea swallow ; *tail*, two strands of ginger hackle ; hooks Nos. 0 and 1.

**AUGUST DUN**—*body*, light brown floss, ribbed with yellow silk ; *legs*, light brown hackle ; *wings*, light brown mottled feather from brown hen ; *tail*, two strands of brown hackle ; hook No. 2 or 3.

**WHIRLING BLUE DUN**—*body*, blue and ginger fur mixed, ribbed with yellow silk ; *legs*, light red hackle ; *wings*, starling quill feather ; *tail*, two strands of light red hackle ; Nos. 2 and 3 hooks.

**LEE'S FAVOURITE**—*body*, black silk, ribbed silver thread ; *legs*, black hackle ; *wings*, water-hen quill feather.

**HOFLAND'S FANCY**—*body*, brown silk ; *legs*, red hackle ; *wings*, from woodcock quill feather, with two strands of red hackle for tail.

**BROUGHTON POINT**—*body*, purple silk ; *legs*, dark starling hackle, mixed with two or three fibres of scarlet hackle ; *wings*, from starling quill feather.



- GREENWELL'S GLORY**—*body*, olive silk, ribbed with fine gold thread ; *legs*, furnace hackle ; *wings*, from water-hen quill feather. This was originally brought out by the Rev. Canon Greenwell, of Durham, to represent the iron blue.
- FRANCIS FLY**—*body*, bright scarlet floss silk, ribbed with peacock herl ; *legs*, dun cock's hackle ; *wings*, two tips of same.
- THE GOVERNOR**—*body*, peacock herl, tipped at tail with orange floss silk ; *legs*, red hackle ; *wings*, woodcock quill feather.
- THE COACHMAN**—*body*, peacock herl ; *legs*, red hackle ; *wings*, pure white feather from a hen or duck.
- BLUE QUILL GNAT**—*body*, composed of herl, with the rough parts scraped off with thumb and finger nails ; *legs*, blue dun hackle ; *wings*, starling-quill feather.
- RED QUILL GNAT**—*body*, composed of herl, same way prepared as described in blue quill gnat, tied with red silk ; *legs*, red hackle ; *wings*, from quill feather of starling.
- BLUE UPRIGHT**—*body*, composed of quill, prepared as described. This fly is made buzz, and hackled with a blue cock's hackle, with fibres of same colour for tail.
- FENWICK'S FANCY**—*body*, peacock's herl ; *legs*, ginger or red hackle ; *wings*, from hen pheasant quill feather.
- WICKHAM'S FANCY**—*body*, gold tinsel ; *legs*, red hackle, run up body ; *wings*, from starling quill feather.
- RED ANT**—*body*, red waxed silk ; two or three turns of copper peacock's herl at tail ; *wings*, starling quill feather ; *legs*, red hackle.
- BLACK ANT**—*body*, black silk ; two or three turns of black ostrich herl at tail ; *wings*, from quill feather of starling of darkest shade ; *legs*, black hackle.
- COCH-Y-BONDU**—No list would be complete without giving the dressing of this world-renowned fly. Body made thick, of dark copper-coloured peacock's herl, mixed with black ostrich ; dressed as a hackle fly, the wings and legs formed by a dark red hackle, with black in centre ; tied on all sizes of hooks from No. 1 to 8, the larger sizes being used for lake fishing and having an orange tail or tag added. It is used the whole season.
- BRACKEN CLOCK**—*body*, copper-coloured peacock's herl, tied with orange silk ; *hackles*, from red feather of landrail. This is one of the most deadly of spiders, and may be used the whole season. It will take grayling equally well.

RED PALMER—*body*, copper-coloured peacock's herl, ribbed with gold twist ; red cock's hackle over all.

BLACK PALMER—*body*, black ostrich herl, ribbed with silver twist ; black cock's hackle over all. The above two palmers are old-established favourites for trout, dace, and chub, and if dressed on a No. 0 or 1 hook are equally in favour with the grayling.

BLACK SPIDER—*body*, brown silk ; *hackle*, from green glossy feather of cock starling.

RED SPIDER—*body*, yellow silk ; *hackle*, from red feather of landrail.

DUN SPIDER—*body*, yellow silk ; *hackle*, from golden-tipped feather of dotterel. The above are three of the spiders recommended by the late W. C. Stewart in his "Practical Angler"; and the following three patterns are the winged flies he also advocated in his admirable work:—

1. A WOODCOCK WING, with a single turn of red hackle, dressed with yellow silk freely exposed on the body.
2. HARE LUG BODY, with a corn bunting or chaffinch wing ; a woodcock wing may be put to same body, but should be made from the small light-coloured feather taken from the inside of the wing.
3. WOODCOCK WING, with a single turn of a soft black hen's hackle or small feather from the shoulders of the starling, dressed with dark-coloured silk.

#### TROUT FLIES : SPIDERS.

DARK WOODCOCK AND ORANGE BODY.

LIGHT WOODCOCK AND YELLOW BODY.

DARK SNIPE AND PURPLE BODY.

DARK SNIPE AND ORANGE BODY.

LIGHT SNIPE AND YELLOW BODY.

RED HACKLE AND ORANGE BODY.

DOTTEREL HACKLE AND YELLOW OR ORANGE BODY.

GOLDEN PLOVER AND YELLOW BODY.

PARTRIDGE HACKLE AND ORANGE BODY.

DARK GROUSE HACKLE AND ORANGE BODY.

LIGHT GROUSE HACKLE AND YELLOW BODY.

GREY PARTRIDGE HACKLE AND YELLOW BODY.

The above are twelve of the best patterns of spider flies, and are most deadly in the waters of the north of England and south of Scotland. If

tied very lightly, with very little feather, they form a splendid range for the clear streams of Yorkshire.

TROUT AND GRAYLING FLIES : DERBYSHIRE PATTERNS.

SILVER TWIST.  
FURNACE FLY.  
FEBRUARY RED.  
HARE'S EAR DUN.  
PEACOCK FLY.  
BLUE DUN.  
SPANISH NEEDLE.  
WREN TAIL.  
BLACK GNAT.  
SMALL RED PALMER.  
LITTLE CHAP.  
YELLOW DUN.  
ASH-COLOURED DUN.

YELLOW LEGS.  
DOTTEREL.  
PRIMROSE DUN.  
SUMMER DUN.  
WHIRLING BLUE DUN.  
GRAYLING AUTUMN DUN.  
SMOCK.  
GREY PALMER.  
ORANGE BUMBLE.  
HONEY DUN BUMBLE.  
PURPLE BUMBLE.  
RED TAG.

The above is a complete list of the best range of flies for the Derbyshire streams, either for trout or grayling.

SCOTCH DRESSING.

The following is a complete list of the best known flies and general favourites in Scotland ; although there are numbers of English patterns that kill equally well, while some of the Scotch patterns do good service on the English streams :—

THE SLATER FLY—*body*, orange waxed silk, tipped with gold tinsel ; *wings*, pheasant back feather ; *legs*, Coch-y-Bondu hackle, with three fibres for tail. This is a rare killer in many Scotch streams ; if made large and tied with yellow silk it is a prime loch fly.

RED MARCH BROWN—*body*, red fur of rabbit, ribbed with silver thread ; *wings*, partridge tail ; *legs*, red hackle ; two fibres of red hackle for tail.

WILLOW FLY—*body*, grey rabbit's fur, ribbed with yellow silk ; *wings*, from quill feather of snipe ; *legs*, yellow hackle.

PROFESSOR—*body*, light orange silk, ribbed with fine gold tinsel ; *wings*, bustard ; *legs*, red hackle.

BLUE AND SILVER—*body*, silver tinsel ; *wings*, from quill feather of snipe ; *legs*, black hackle.

BLUE AND YELLOW—*body*, yellow floss silk ; *wings*, from quill feather of snipe ; *legs*, red hackle.

BLUE AND BLACK—*body*, black floss silk, ribbed with fine silver tinsel ; *wings*, quill feather of snipe ; *legs*, black hackle.

WOODCOCK AND YELLOW—*body*, yellow floss silk, sometimes ribbed with fine gold tinsel ; *wings*, from quill feather of woodcock ; *legs*, red hackle.

WOODCOCK AND RED—same as above, only red body, ribbed with fine silver tinsel.

WHITE TIP AND YELLOW—*body*, yellow floss silk, ribbed with silver tinsel ; *wings*, feather tipped with white from small wild duck ; *legs*, red hackle.

WHITE TIP AND BLACK—*body*, black floss silk, ribbed silver tinsel ; *wings*, same as above ; *legs*, black hackle.

HARE LUG—*body* and *legs*, made from fur of hare's ear, tied with yellow silk, legs well picked out ; *wings*, woodcock ; *tail*, two strands of mallard feathers, tipped with gold tinsel. This may be varied by substituting a blue wing in place of woodcock.

STONE FLY—*body*, blue rabbit's fur, tipped with silver ; *wings*, from quill feather of pheasant ; *legs*, dun hackle.

WHITE MOTH—*body*, white floss silk, ribbed with silver ; *wings*, feather of white goose ; *legs*, white hackle.

GREENWELL'S GLORY—(See English dressing.)

HOFLAND'S FANCY „

MARCH BROWN „

GREENTAIL OR GRANNAM „

OAK FLY „

ALDER FLY „

BLUE DUN „

WHIRLING DUN „

YELLOW DUN „

BLACK GNAT „

GOVERNOR „

COW DUNG FLY „

RED ANT „

BLACK ANT „

YELLOW SALLY „

CINNAMON „

RED SPIDER—(See Stewart's dressing.)

BLACK SPIDER                   ,,

DUN SPIDER                   ,,

MAY FLY—(See English dressing.)

There are also a number of spider flies used in the Scotch rivers made from feathers of grouse, partridge, golden plover, and blackbird.

### IRISH DRESSING.

IRON BLUE—*body*, darkest mole's fur, mixed with a little fiery brown mohair, the last two turns picked out for legs; *wings*, swift's quill feather (second or third leader); *tail*, two fibres of rat's whiskers.

OAK FLY—*tag*, gold tinsel; *body*, orange silk and two turns of hare's ear under shoulder, ribbed with black horse hair; *legs*, red cock's hackle; *wings*, under wing from a woodcock's quill feather, a few fibres of partridge tail over; if tail is used, two fibres of brown mallard. The natural fly has no tail.

ORANGE GROUSE—*tag*, gold tinsel; *body*, for two-thirds orange floss silk, then towards the shoulder a mixture of red and yellow mohair and hare's ear; *legs*, grouse hackle, trimmed; *wings*, partridge tail or grouse.

HAWTHORN—*tail*, gold tinsel; *body*, two-thirds black horse hair, remainder black ostrich herl; *legs*, black cock's hackle, or topping of largest green plover (two or three turns; ; *wings*, light starling.

BLUE DUN—*tag*, gold tinsel; *tail*, two fibres mallard or rat's whisker; *body*, water-rat fur taken from point of the ribs (tips cut off), mixed with a little golden olive mohair; *legs*, water-rail, or the tips of the fur mixed with golden olive; *wings*, bluish feather of the starling.

HARE'S EAR FOR SPRING—*body*, withered part of hare's ear, mixed with golden olive mohair; gold tinsel tag; *tail*, two fibres of mallard; *legs*, red cock's hackle, short in fibre (may be varied by using wren tail); *wings*, landrail of dull colour, not red.

BLUE BLOW—*tag*, yellow silk; *tail*, mallard fibres; *body*, mole's fur; *legs*, black cock's hackle; *wings*, tomtit put on whole (the tips).

CINNAMON FLY—*tag*, gold tinsel; *tail*, mallard fibres; *body*, warm golden olive mohair and fox fur; *legs*, red cock's hackle; *wings*, landrail (ruddy).

MARCH BROWN—*tag*, gold tinsel; *tail*, two fibres of mallard; *body*, hare's ear, cinnamon mohair and golden olive mixed, ribbed with yellow silk; *legs*, partridge back; *wings*, partridge tail. Another dressing—*tag and tail*, as the above; *body*, hare's ear, claret (very little) and

golden olive mixed ; *legs*, wren's tail ; *wings*, under of starling and over of a partridge tail ; a little green mohair sometimes is good mixed with the body (to imitate the female fly).

COW DUNG FLY—*body*, warmish lemon yellow, with a little green up towards shoulder ; *legs*, ginger cock's hackle ; *wings*, landrail, tied flat ; a few fibres of partridge tail over the rail ; a turn of tinsel at tail.

YELLOW WREN—*body*, bright yellow silk, colour of ribbon tying cigars ; *legs*, wren tail ; *wings*, starling.

GREEN WREN—*body*, grass green silk or mohair ; *legs*, wren tail ; *wings*, starling or cock pheasant.

HOFLAND'S FANCY—*body*, reddish brown silk ; *tail*, mallard ; *legs*, red hackle ; *wings*, woodcock.

WICKHAM—*body*, flat gold tinsel, ribbed with gold thread ; *legs*, black red game hackle ; *wings*, landrail or woodcock.

GREENWELL'S GLORY—*body*, dark olive silk, ribbed with fine gold wire ; *legs*, dark coch-y-bondu hackle ; *wings*, woodcock.

BLACK OVER ORANGE—*body*, orange silk ; *legs*, peewit's topping ; *wings*, dark starling.

YELLOW RAIL—*body*, lemon-coloured floss silk ; *legs*, outside of wing of landrail (trimmed slightly) ; *wings*, the ruddy-coloured feather of landrail's pinion, dressed rather long and full ; a turn of gold tinsel at tail.

ORANGE RAIL—*body*, orange silk ; *legs*, landrail, trimmed ; *wing*, landrail ; a turn of tinsel at tail.

GREEN RAIL—*body*, grass green silk floss ; *legs*, landrail ; *wings*, ditto ; a turn of gold tinsel at tail.

**Twisting Engine** is a useful little appliance for twisting gut and hair into snoods, and may be had at any respectable tackle shop.

**Varnish, Coachmaker's**, is used for landing net handles and rods, and may be procured from nearly all druggists. The amateur would find it too troublesome to make, as well as costly.

**Varnish, Hard Spirit**.—Sandarach, four ounces ; pale seed lac, two ounces ; gum elemi, one ounce ; alcohol, one quart. Digest with agitation until dissolved, then add two ounces of Venice turpentine.

**Varnish, Shellac**, for touching up the heads of flies or the loose ends of silk tyings, is made by dissolving pale shellac or sealing wax in double the quantity of spirits of wine until it is as thick as cream. Touch the articles with the point of a camel's hair brush, which may be kept in the bottle, inserted in the cork.

**Waders**, either stockings or trousers, are made from a particular kind of indiarubber cloth, and are of various strengths and grades of thickness. Those made from satteen cloth are very light and comfortable. Fishing waders should always be worn over woollen stockings or socks, and another pair of the same drawn over the waders before putting on the brogues or boots. This precaution is necessary to prevent the waders getting chafed or cut by the boots or by sand or gravel rubbing against them. The overboots should be either leather, canvas, or india-rubber, buckled across the front of the foot, the soles with nails and a few holes bored in them to allow the water to escape freely. Some prefer indiarubber soles, fluted; these bite very well on slippery stones, but they have not the firmness of leather, and the angler requires all the command possible over his feet, especially when wading in heavy water and over a stony bottom. With care waders will last many seasons, but to gain this end several precautions are necessary. The angler should not kneel on a shingly beach or rough bank with them; nor should he climb fences or attempt making his way through quickset hedges or briars, as the least prick of a thorn or scratch will destroy their waterproof qualities and render them useless. Again, after being used they should be turned inside out, all sand or dirt washed off them, and hung up in the air to dry; when the inside is dry, they

should be reversed and the outside dried. The perspiration which accumulates inside the legs and feet, if allowed to remain without drying off, has a tendency to decompose the indiarubber, and they cease to be waterproof. Waders should never be dried near a fire, and when not in use should be hung from a nail by the straps, or slung over a frame, and should not be folded or put in a box or drawer. When the feet of the waders wear, they can be refooted by sending them to the makers. If the angler is using wading stockings, he should be careful when stooping, lest the water should make its way over the top and render them very uncomfortable; and again, it is dangerous getting into holes or deep water with them, for if they get full of water they become so weighty that the angler gets "pounded" and unable to move. Many instances have occurred of persons being drowned through the waders filling and causing the angler to fall, the weight of the filled waders preventing him rising. It is a dangerous practice wearing wading stockings in a deep river; safer by far, if trousers are not available, to wade in the ordinary dress, even at the risk of getting wet legs and feet. Waders are now manufactured by a new process, which keeps them soft and pliable in all weathers.

**Walking-stick Rods** are made in various qualities. Some are perfect works of art, as far as rod making is concerned, The middle and tops go into a bored Malacca cane, fitted with silver and other mounts.

**Walton, Isaac**, the father of the art and science of angling, was born at Stafford in the month of August, 1593. He must have spent his youth in this neighbourhood, and no doubt acquired the taste for angling which has ever been



and ever will be associated with his name. In 1624 he went to London, and entered into business as a draper. In 1626 he married Rachel Floud, a descendant of Archbishop Cranmer. He had seven children by this marriage, but they all died young, and his wife died in 1640. He married again in 1646, the daughter of the then Bishop of Bath and Wells. At the age of fifty he retired from business, and devoted himself to literature and angling. His second wife died in 1662, and was buried at Winchester. He brought out and published the "Complete Angler" when he was sixty years of age. It attained a wide popularity, and ran through many editions. It is considered to be one of the best styles of English pastoral writing, even up to the present day, and no angler should be without a copy of it, as there is a fund of information in it, written in quaint and most beautiful language. He published several works after this celebrated one, and ended his days at Winchester on the fifteenth of December, 1683. In the cathedral of that city, in a chapel in the south aisle, on a black marble stone, is this inscription to his memory :—

Here resteth the body of  
MR. ISAAC WALTON,  
Who dyed the 15th December, 1683.

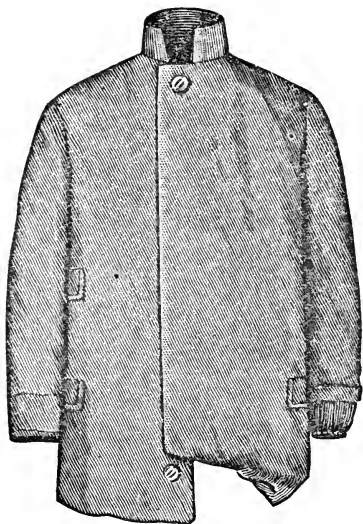
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Alas ! he's gone before ;  
Gone to return no more.  
Our panting hearts aspire  
After their aged sire,  
Whose well-spent life did last  
Full ninety years and past ;  
But now he hath begun  
That which will ne'er be done ;  
Crowned with eternal bliss,  
We wish our souls with his.

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**Washaba**, known also as Bethabara or Sumatra greenheart, is a wood grown in the East Indies, and used occasionally for top pieces of trout fly rods. It is dense, hard-grained, and elastic, takes a beautiful polish, is not so heavy as the genuine greenheart, but has the bad habit of breaking suddenly without any apparent cause, and as it is difficult to get straight in the grain, the rod makers, on account of these two faults, fight shy of it. For top pieces it is inferior to greenheart.

**Wasp Grubs.**—These are got from the wasp's nest. Trout will occasionally take them, but they are more esteemed by chub and dace. This bait is sometimes toasted, to make it tougher.



WATERPROOF FISHING JACKET.

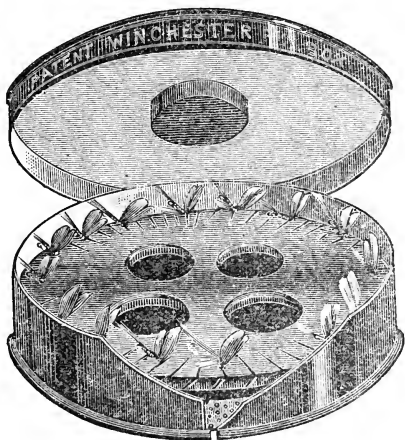
**Waterproof Fishing Jackets.**—These are made with or without capes, of light waterproof material, and

short enough to come just over the top of the fishing stockings. They should have hooks and eyes, to loop up when deep wading. Very useful for keeping the angler dry in wet weather, and portable enough to strap on the fishing basket.

**Waterproofed Lines.**—(See "Lines.")

**Winches.**—(See "Ree's.")

**Winchester Fly Box.**—An ingenious contrivance, the invention of Mr. Bonham Carter, a Hampshire angler. For the dry fly fisher this box is invaluable. The makers claim the following advantages over all other boxes:—

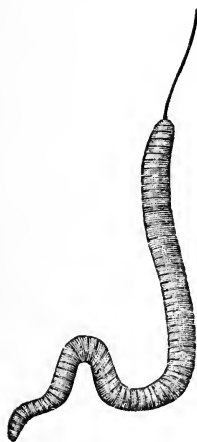


THE WINCHESTER FLY BOX.

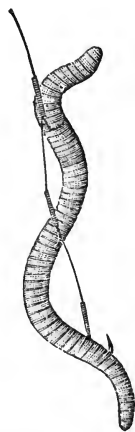
First, the gut on the flies is kept damp; second, by the interior construction the flies can be removed or replaced in a moment; third, it will hold eight to ten dozen flies, and is so compact that it can be carried in an ordinary pocket.

**Worms** are many and various, but there are three or four species which can be easily obtained and will fully satisfy all the requirements of the angler. The *black-headed worm* is to be found in most garden soils, in the scrapings of a road, or in decayed vegetable matter. It is devoid of the knot which most worms possess, and is of a darkish colour, but after it has been scoured properly it becomes a good clear red. This variety can readily be obtained of the proper size, and lasts long on the hook, being very tough in the skin. It is a very successful bait for all fishes, and is greedily attacked by trout, salmon, and perch. The *red-headed worm* is to be found in very rich soil, in manure heaps, and at the edges of the soil where the moisture from a manure heap accumulates. It is short and thick, of a strong red colour down the back, and of a bluish shade underneath. It does not make a very good bait, as it soon bleaches in the water and gets flabby. The *brandling worm* is a great favourite with many anglers, and is found in old decayed hot-beds or manure heaps. It has rings all round its body, and a knot near the middle. Brandlings can be scoured in a few days, but do not toughen, and consequently tear off the hook easily, so it is essential to have a large number of them for a day's fishing; they do not last long, are not nice to handle, and emit a disagreeable smell when pierced by the hook. The *dew worm* can be found after dark, when rain has fallen; candlelight will then reveal them crawling over the ground. These worms are also to be got in the rich banks of a river. They require more scouring than most of the other varieties, but are lively, good baits if obtained the right size.

**Worm Baiting.**—To bait the single hook, which should be No. 9 or 10 round bent (Kendal scale), or perhaps better a McKenzie bend, take the worm between the thumb and forefinger of the left hand, gently nipping its head; this will cause its mouth to open. Then with the right hand insert the point of the hook, and push the bait up with the forefinger and thumb of the left hand until the head can be grasped by the forefinger and thumb of right hand; it can then be drawn over the entire hook and so far up the gut that about three-quarters of an inch of the tail



SINGLE HOOK, BAITED,



STEWART TACKLE, BAITED.

hangs free. Great care must be taken not to break the worm or expose the hook in any way. (See illustration.) This requires a little practice, but it is soon acquired, and well prepared worms can be impaled very quickly. If the worm is small and not of sufficient length to cover the hook, then use two by threading the first worm about half, bringing the barb out about middle ring, push this up the

gut. then thread the second worm as first mentioned and bring it down to meet the other, so that the two tails will hang loose together. If the worm is very large, thread about a fourth of it on to the hook, bring the barb out and take up a loop of the worm and thread another fourth part of it, leaving a fourth of it free. Large worms as a rule should be discarded by the trout angler; the smaller kind are decidedly the best to use. Worms being very slimy and slippery in the fingers, it will be found advisable for the angler to have a little fine sand or dry soil in some convenient pocket or bag, into which he can dip his finger and thumb, thus obtaining a firmer grip, making the baiting more satisfactory. If the angler is using the three-hook or Stewart tackle, the baiting is somewhat easier. The worm is taken out of the bag or box, and the three hooks stuck into it; it does not matter much how this is done, so long as the hooks are holding. (See illustration.) This plan is greatly practised in Scotland and also in England. It is a very deadly method of using the worm, and a debatable question is often raised as to which is the better way, the single hook or the Stewart tackle.

**Worm Fishing** is divided into two sections—heavy or flood water fishing and clear or low water fishing. To pursue the first style, the angler has a well-scoured worm threaded on a round bend hook, armed to about one and a-half yards of gut. Leads, either of split shot or any of the other descriptions, are fastened on the line about eight or nine inches above the hook, the number of shot or weight of lead varying according to the swiftness of the water. These being attached to a strong reel line and short stiff rod, the angler walks slowly along the bank of the river, casting the bait out into the stream and allowing it to

travel into the slack water near the bank. The trout are generally near the edges of the water looking out for food. When the line stops, lower the point of the rod for a second or pause for the same time, then lift sharply; if there is a fish on throw it out, unless it is a very large one which would require some play and time. There is very little law given in this heavy water fishing, and the sooner the fish is grassed the better, and the stream being strong and muddy coloured, it is difficult for an angler to use his net with any kind of satisfaction. If the fish has missed, the worm will usually be found up the line, and may be brought down to its place and another trial given; if broken badly, put a fresh worm on. There is no skill required for this style of angling, nor is it recognized as sport amongst the true lovers of the gentle art. Nevertheless, it is greatly practised, and heavy baskets of fish are taken in this manner by the rural angler, causing a scarcity in many a good trout stream. Clear water worm fishing is a horse of another colour, and is quite as scientific as fly fishing, and perhaps even more difficult to master. It is much resorted to in clear streams, in the months of June and July, when the water runs low and the sky is too bright for successful fly fishing. The *modus operandi* is as follows:—The angler is armed with a nice handy rod of from twelve to fourteen feet long, inclining to stiffness; a reel line, not too fine, and a nicely tapered gut cast about six feet long. The hook should be either a No. 9 or 10 round bend or McKenzie hook; if the angler prefers, he can use a compound tackle, such as the Stewart or Pennell. In using the single hook, thread it with a nice lively, clear, tough worm, covering it well and leaving about half to three-quarters of an inch of the

tail free. It is not necessary to use any shot, but a small No. 6 about six or seven inches above the hook helps to regulate the speed of the worm in rough, strong waters; in the low, clear streams of summer the shot may be dispensed with altogether. Now "approach the water" carefully, avoiding observation as much as possible, and having drawn off line about the length of the rod, or a little longer, cast well up into the stream. Directly the worm touches the water, the point of the rod should be gently raised; this allows the bait to sink. Do not further interfere with it, but allow the worm to travel with the stream until it is opposite the spot where the angler is standing, when the same sort of cast may be repeated. Clear water worm fishing is always practised *up stream*, that is, the angler must fish and wade up the water. Fishing down stream with the worm is bad form, and very seldom attended with any success. The best portions of a river are where the streams are broken with stones and boulders, and not too deep; it is in such places that the trout lie in summer weather watching for food, and the angler can approach them unseen, as the water is generally rough and the stones afford a shelter. The next best portions are the pools, if ruffled by wind, particularly the thinner reaches at the heads of streams. These should be most carefully fished, and from such, should weather and wind be favourable, the angler will largely increase his take; however, if the pools are dead calm, it is better to devote attention to the streams. When the worm is cast up the water, the stoppage of the line is the first indication of the bait being seized, but this may sometimes happen when the worm is fouled by an obstruction; the angler can generally tell, for if a trout has attacked the



worm there is a gentle tremor perceptible on the line. Give a moment, lower the point of the rod, and strike down stream ; five times out of six the fish will be hooked and the worm will be found some inches up the line, when it can be drawn down into position again and used as before. If the Stewart or Pennell tackle is employed, a fresh worm must be put on at every bite. If the angler is using the brandling or any tender worm the Stewart tackle is the best. The angler should, if at all possible, wade, as doing so gives him a great advantage in crossing from one side to the other ; besides he can keep lower down in the water and reach the most likely spots. Success in worm fishing in a measure greatly depends upon the preparation of the worms, which should not be too large. If these are properly scoured and cleaned in moss some days before using, according to the instructions already given, the angler will be materially aided in his sport. It is almost a necessity for the tyro to have some practical lessons from a good worm fisher before he can become an expert. An exhaustive description of worm fishing is given in "Stewart's Practical Angler," a most valuable manual for an amateur to possess.

**Worm Scouring.**—After being gathered, let the worms be put into a pail or vessel of water for a few minutes, then lifted out and laid on a dry board, when they will begin to crawl and cast. They may then be picked off, and put into a crock or any suitable vessel containing some clean fresh moss, well washed, wrung dry, and free from straws or small sticks. In this they will bury themselves, and soon begin to clean and toughen. The moss should be renewed in a couple of days, and any dead or damaged worms removed. They will keep lively in this

way for five or six weeks. The angler should always return to the store any worms he may have left over after a day's fishing, when they will freshen up again. Keep the store vessel in a cool place. A novel mode of getting a supply of worms may be mentioned here, as it has been tried with success. Choose any spot in garden or field likely to contain them. Drive a spade into the ground, and, using the shaft as a lever, rock backwards and forwards, and in a minute or so all the worms within two yards of the spade will be seen emerging from the soil, hastening to escape the unusual disturbance. They can be picked up clean and bright, quite superior in appearance to what they would be if dug out in the usual manner. When no more worms appear, withdraw the spade and renew operations a short distance off, and in a quarter of an hour, if weather and ground be favourable, many dozens may be procured, and in a comparatively easy manner.

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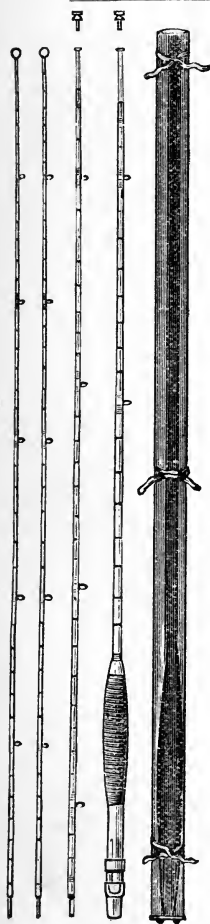
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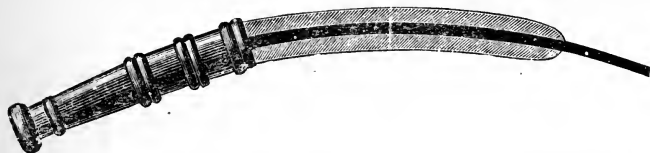
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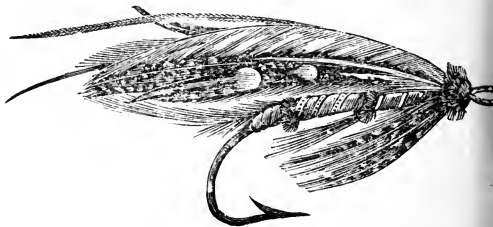
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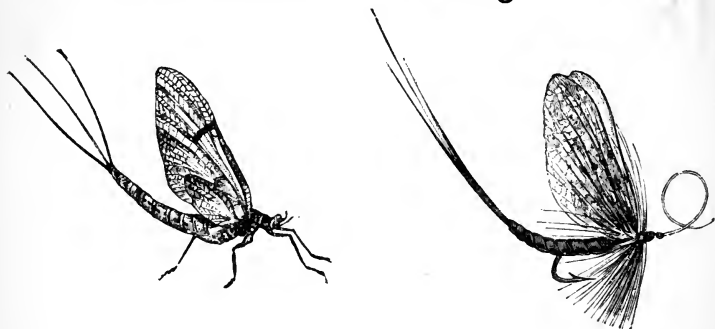
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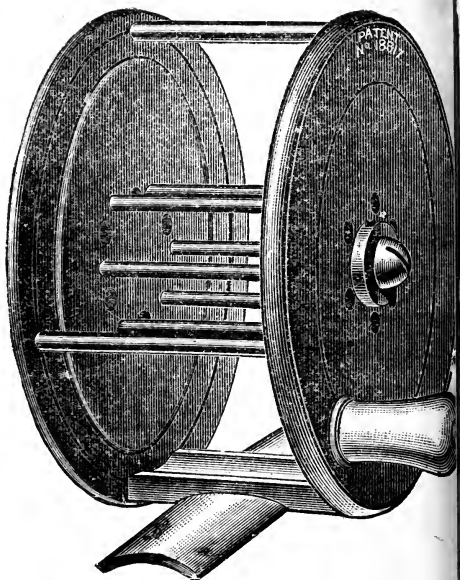
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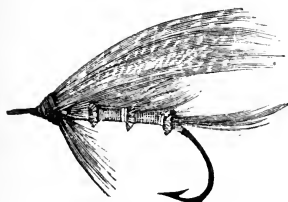
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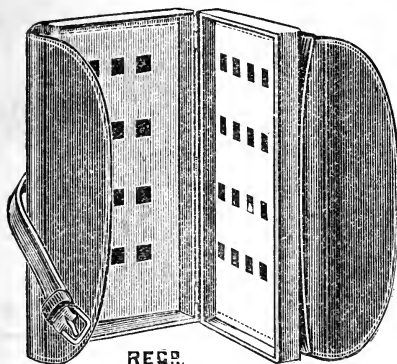
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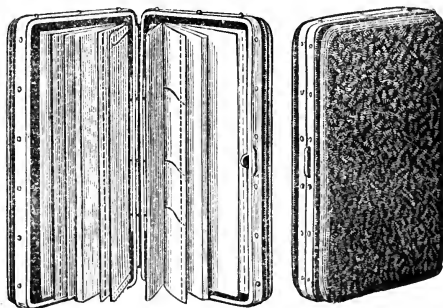
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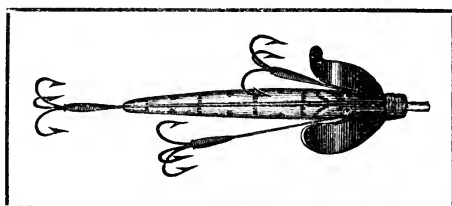


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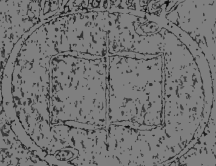
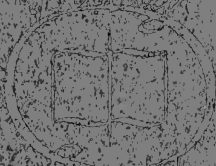
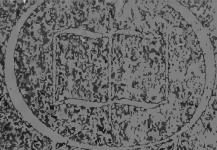
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